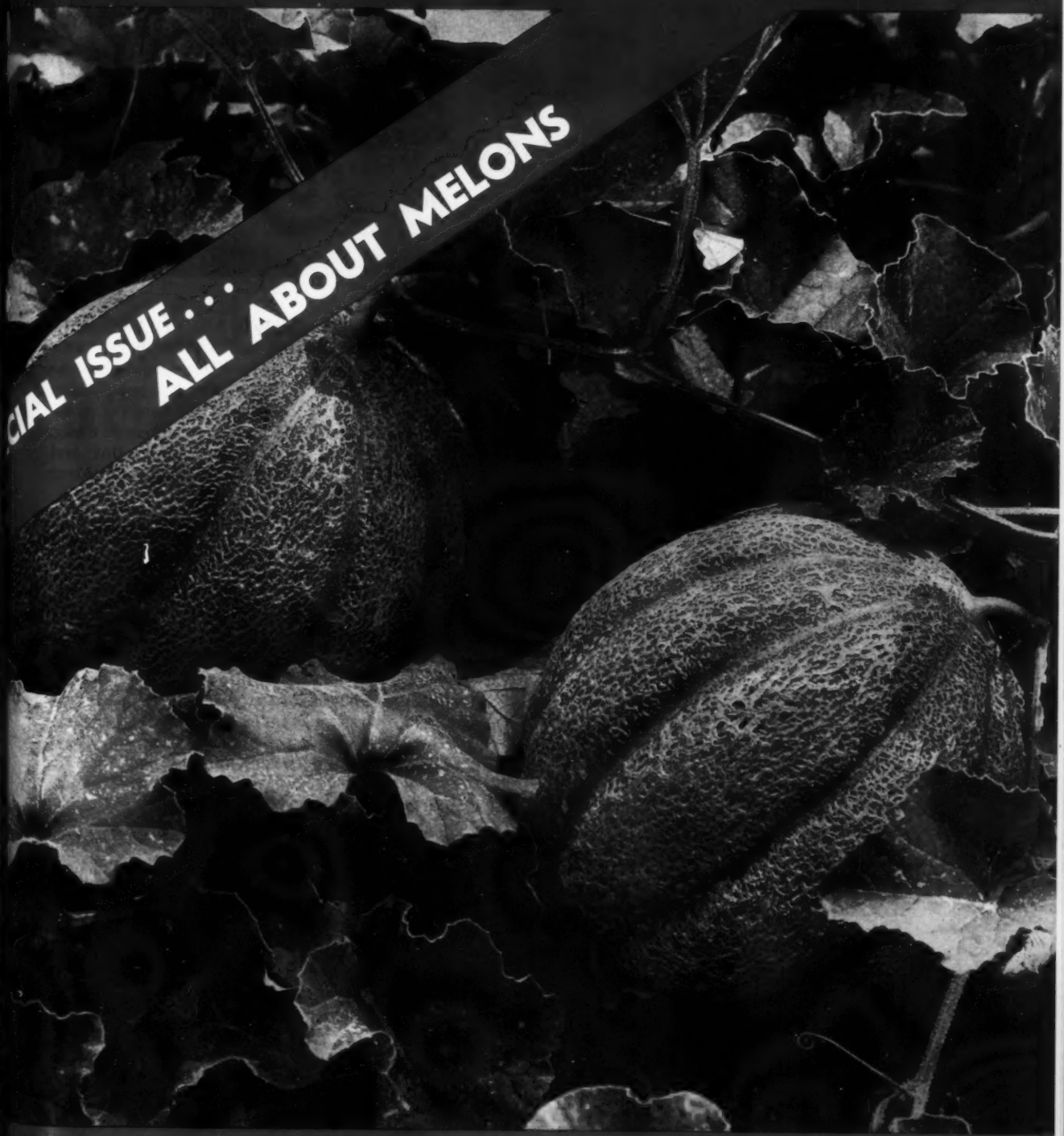
American Vegetable Grower

SEPTEMBER • 1956



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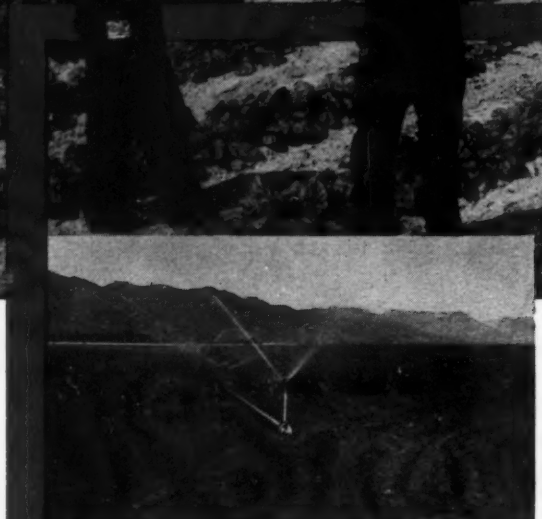

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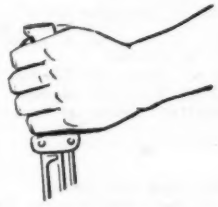

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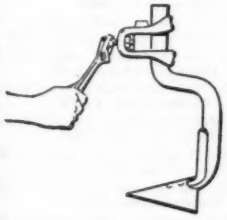

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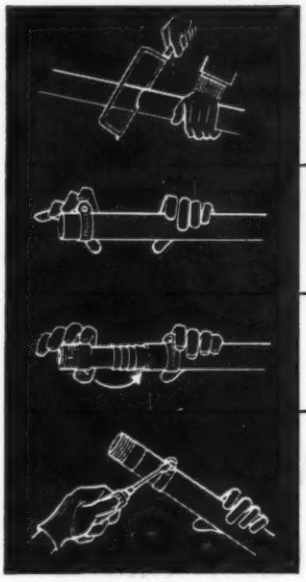

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UNITED STATES STEEL EXPORT COMPANY, NEW YORK

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UNITED STATES STEEL

AMERICAN
VEGETABLE GROWER

REG. U. S. PAT. OFF.
(Commercial Vegetable Grower)

Vol. 4 September, 1956 No. 9

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AMERICAN VEGETABLE GROWER
Published Monthly by
AMERICAN FRUIT GROWER PUBLISHING CO.
Willoughby, Ohio
E. G. K. MEISTER,
Publisher
RICHARD T. MEISTER, Editor
Editorial Staff
E. K. GOULD, Managing Editor
H. B. TUKEY ELDON S. BANTA
R. L. CAROLUS M. P. RASMUSSEN
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NEW JERSEY, W. J. Martin and Company, 390 Terhune Ave., Paramus. Phone—Colfax 2-4204
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AMERICAN VEGETABLE GROWER is published by American Fruit Grower Publishing Co., Willoughby, Ohio E. G. K. Meister, Publisher and Chairman of the Board; Edward L. Meister, President; Richard T Meister, General Manager; Gilbert Meister, Vice-President. Subscription price $1.00 per year in U.S and possessions, to Canada and other foreign countries $1.50. Single current copies 25c, copies over one year old 75c.

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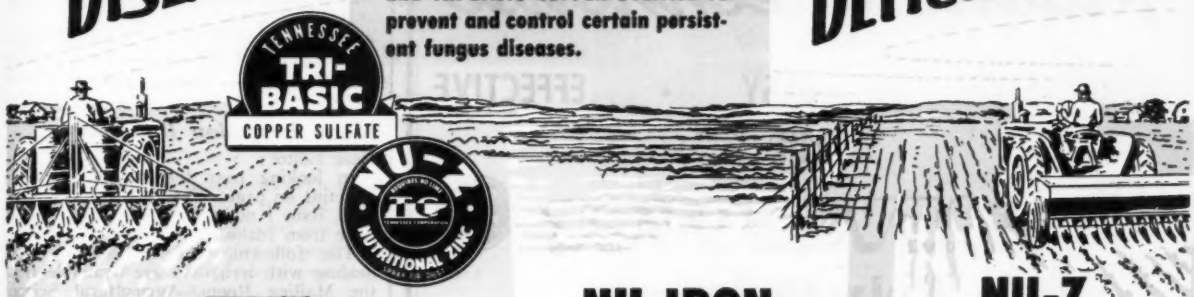

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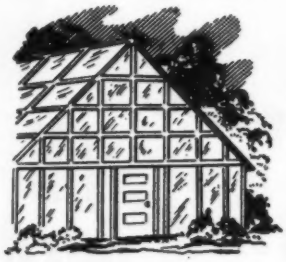

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LETTERS
TO THE EDITOR

Likes "Know Your Vegetable Seeds"

Dear Editor:

I notice in AMERICAN VEGETABLE GROWER, of which I am a subscriber, a special article and picture each month of a certain vegetable seed by Victor Boswell. I wonder if it would be possible for me to have a full set of these. I missed a few of the earlier ones and have tried to save as many as I could since.

State College, Miss. K. H. Buckley

We have sent Reader Buckley a full set of the series, "Know Your Vegetable Seeds."—Ed.

Idaho Irrigation Bulletins

Dear Editor:

In looking over the list of irrigation bulletins on pages 22 and 23 of your June, 1956, issue I notice that you have included none from Idaho.

The following bulletins and circulars dealing with irrigation are available from the Mailing Room, Agricultural Science Bldg., University of Idaho, Moscow, Idaho:

Exp. Sta. Bul. 246—Irrigation of Russet Burbank Potatoes.
Exp. Sta. Bul. 287—Cost of Sprinkler Irrigation on Idaho Farms.
Exp. Sta. Bul. 291—Estimated Irrigation Water Requirements for Idaho.
Exp. Sta. Bul. 19—Characteristics of Irrigation Waters in Idaho.
Ext. Bul. 3-P.N.W.—Sprinkler Irrigation.
Ext. Bul. 171—Use the Farm Level for Better Irrigation and Soil Conservation.

Moscow, Idaho Darrel R. Bienz

Want Buyer's Guide Issue

Dear Editor:

I understand you have a Buyer's Guide in the July, 1956, issue of AMERICAN VEGETABLE GROWER. I would greatly appreciate it if you would send me a copy of the July issue so that I can have the Buyer's Guide on my desk for reference when growers want to purchase farm supplies.

Riverhead, N. Y. H. D. Wells
Assoc. County Agr'l Agent

We have sent the Buyer's Guide to Mr. Wells with our compliments.—Ed.

Longred Enthusiast

Dear Editor:

I read in the June issue (Answering Your Question) that someone wanted to know where he could get Longred and Red Jacket tomato seed. He can get both from Robson Seed Farm, Hall, N. Y. I have been buying the Longred since the first year it came out and think it is the finest tomato that's ever been developed. It has the best bearing qualities of any tomato I have seen.

Winona, Miss. Joe H. Morgan

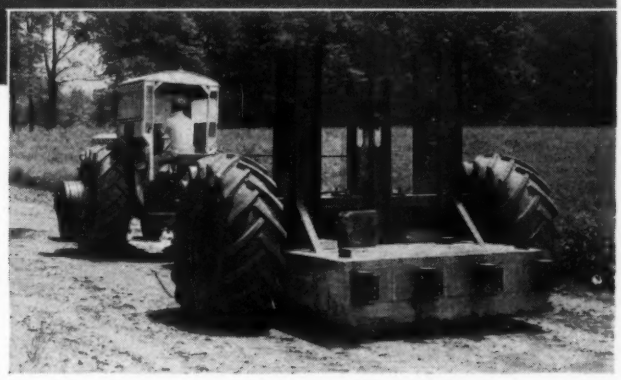
Answers His Needs

Dear Editor:

Thank you very much for sending me my first copy of AMERICAN VEGETABLE GROWER. It's just the kind of magazine growers need. You advertise things we can't find in farm magazines. Now I can buy a plastic greenhouse and a bean thrasher. I wondered why the things I need so badly weren't on the market. Now, by getting your magazine, I know they are.

Cary, Ill. Roy Mackey

WE TORTURE-TEST TRACTOR TIRES



Pilotless tractors work day in and day out testing tractor tires under the most adverse conditions. The units above travel around a center pivot post to which they are attached by cables. To the right, a tractor is punishing tires with a 12-ton load.

TO SAVE YOU MONEY

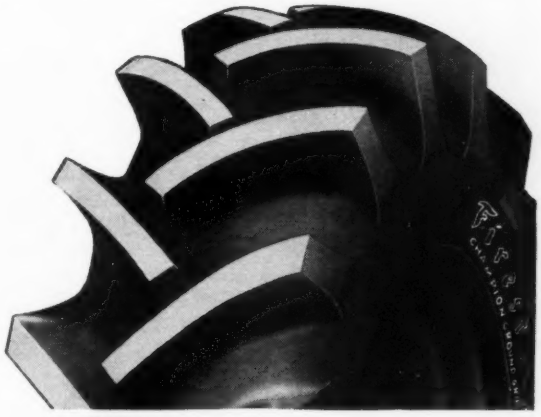
AT THE Firestone Test Station, Columbiana, Ohio, where the first farm tractor tire was developed, Firestone farm tires are being subjected to many torturous abuses—abuses far beyond the normal farm operation. This is being done to make sure Firestone farm tires will pull better, last longer and save you money when you put them on your tractor.

Grueling tests with heavily loaded, pilotless tractors, as shown above, expose tires to extreme sidewall flexing. Other exhaustive tests are also made on a mud course, sod-covered fields and hard country roads.

Tests are conducted for wear, slippage, aging, ability to deliver drawbar horsepower and other factors. All types of Firestone farm tires from the largest tractor sizes to the smallest implements go through such tests before they are ready for the public.

Tests prove conclusively that Firestone farm tires save you money with greater drawbar pull, better cleaning, longer tire life and better retreadability.

Let your Firestone Dealer or Store show you the many other features that help save you money.



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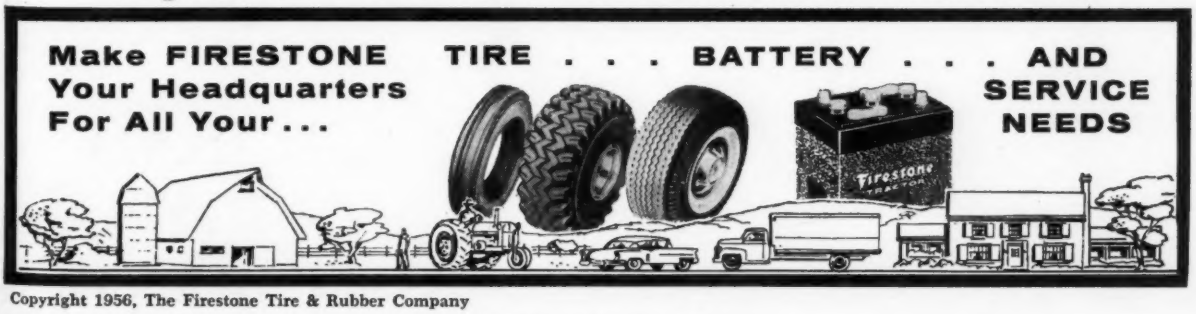

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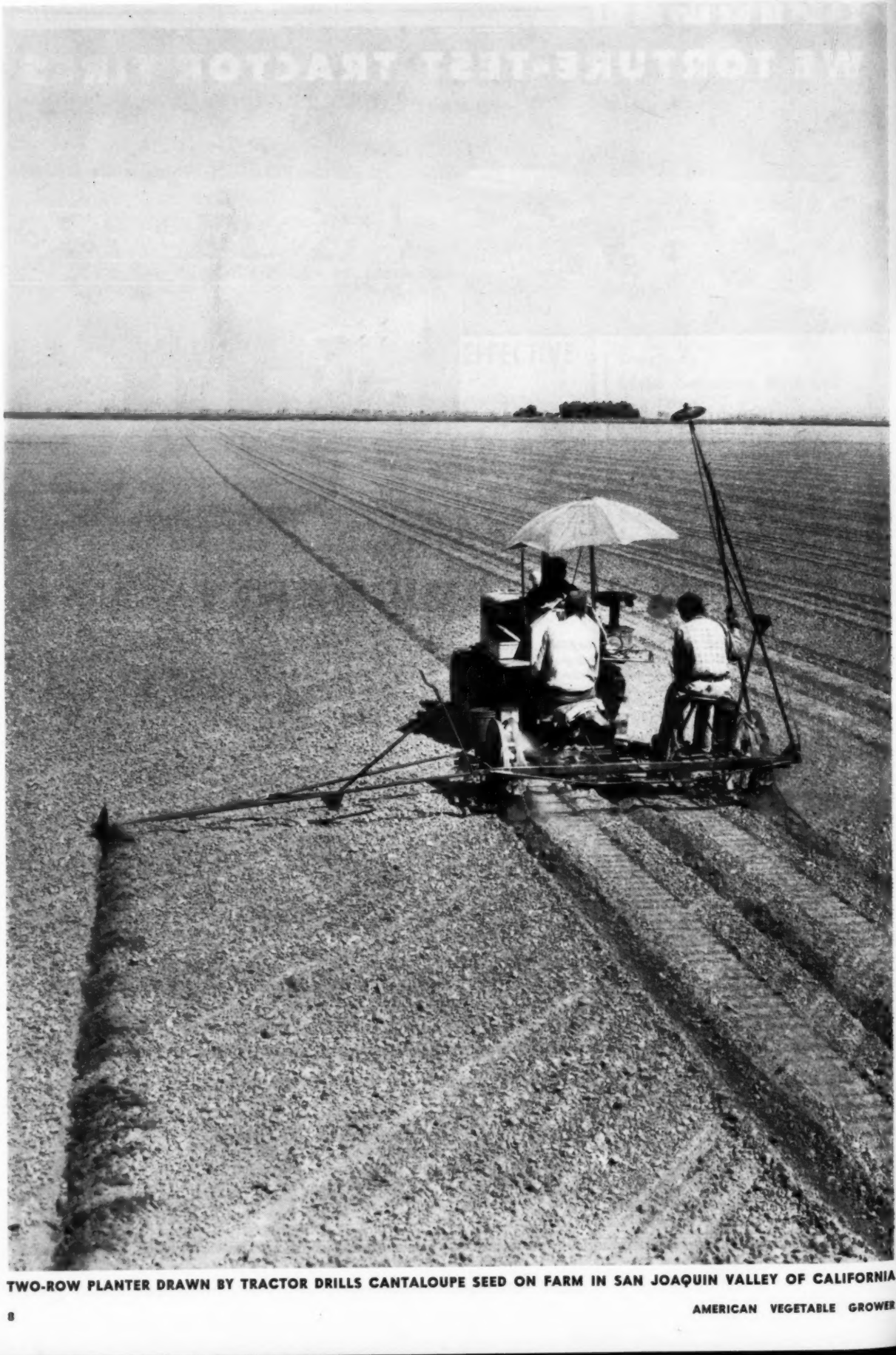
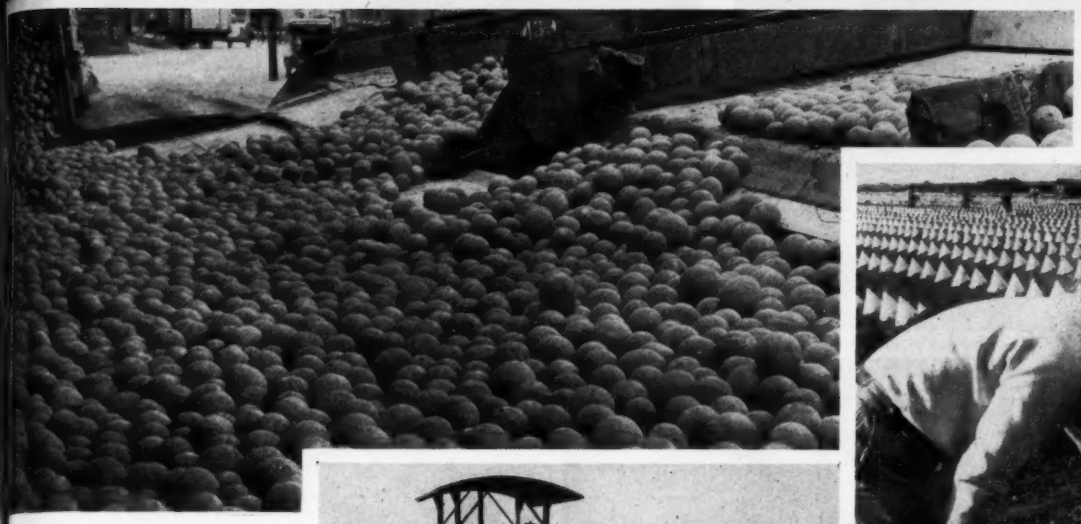
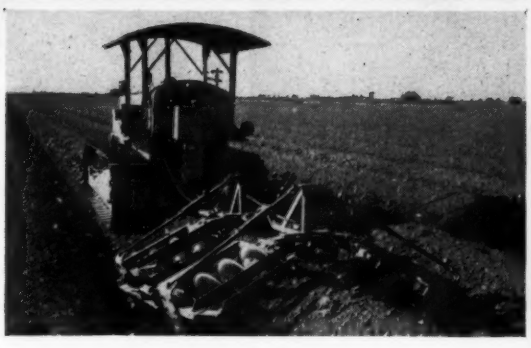


TWO-ROW PLANTER DRAWN BY TRACTOR DRILLS CANTALOUPE SEED ON FARM IN SAN JOAQUIN VALLEY OF CALIFORNIA



Cantaloupes fresh from the fields await packing at the farm of Jack Bros. & McBurney, Inc., Brawley, Calif.



In Yuma (Ariz.) area this heavy-duty, bedding-type tandem disk is commonly used to erect plant beds.

Plant protectors are used in Yuma area for early melons seeded in December.

MELONS . . .

A Booming Industry *in the West*

Cantaloupes are a big-money crop in the irrigated areas of the West

By W. D. PEW
University of Arizona

IN the irrigated areas of the West, cantaloupe production represents a very important part of the vast western vegetable industry.

As a commercial crop, melons have proved remarkably well adapted to the lower elevations in Arizona and California. Within 30 years, the acreage has grown until it is second only to lettuce. In 1956 some 50,000 acres of cantaloupe were produced in this region.

Although weather conditions are generally ideal, obtaining high yields and quality is an exacting operation requiring know-how and special cultural procedures. Western growers have problems seldom encountered in other areas. Proper land preparation, fertilization, and irrigation can spell the difference between success and failure.

Cantaloupes are grown on a wide variety of soils, but loams to sandy loams are generally preferred. Where earliness is a factor, lighter, sandy or gravelly types in the warmer areas are chosen. However, heavier, silt and clay loam soils give maximum yields.

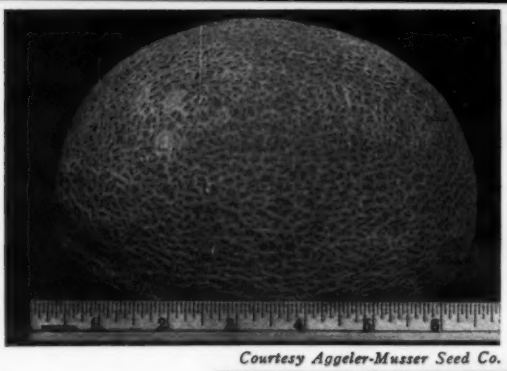
Whatever the soil type, the grower must know exactly how to prepare, fertilize, and irrigate the soil selected to insure a good crop. Good water penetration and aeration are essential. For this reason, cantaloupe fields are generally plowed or worked 10 to 12 inches deep. If a hardpan exists in the upper 2 feet, it should be broken up by deep plowing, knifing, or other means. However, excessive tillage should be avoided.

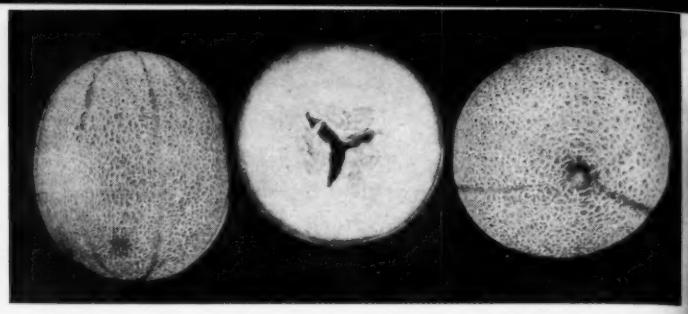
Temperature governs the date and rate of planting and varies with the locality. In warmer sections, early seeding under plant protectors is done in December and January with open seeding extending into March. Where it is cooler, planting starts in early March and continues until mid-April. During the earlier, cooler weather when germination is slow, 3 to 4 pounds of seed per acre is usually needed. Later, when conditions are ideal for germination, the rate may be reduced to 2 or 2½ pounds.

Cantaloupes are generally planted on beds 52 to 84 inches apart, depending on the equipment used. The beds should be wide enough to support the vines, but not so wide that the vines cannot cover them. In the Salt River Valley where sled planters are used, a 60-inch row-width is common. In the Yuma area and in California's Imperial Valley the 80-inch bed is popular.

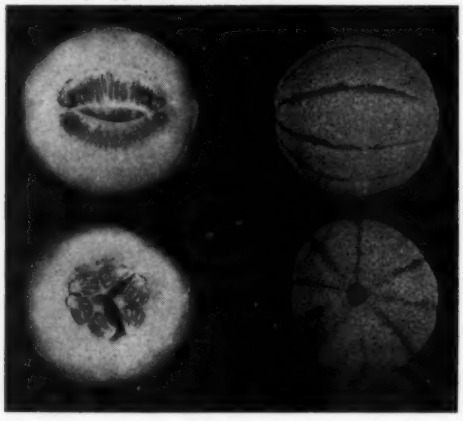
When planting, a continuous ribbon of seed is sown and later the seedlings are thinned to the desired spacing. This is done when the plants are in the 2 to 4 true-leaf stage. Spacing individual plants 8 to 12 inches apart seems to work the best, but other methods have also proved satisfactory. Stands ranging from single plants every 8 inches to hills of two or three plants every 2 or 3 feet are being used.

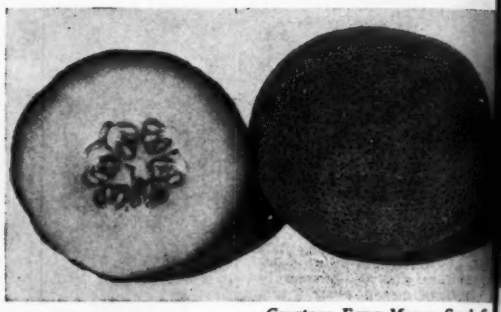
(*Continued on page* 20)





Courtesy Aggeler-Musser Seed Co.





Courtesy Ferry-Morse Seed Co.

Four melons of the Hale's Best type: Hale's Best Jumbo (upper left); Powdery Mildew Resistant 45 (upper right); Powdery Mildew Resistant 6 (left), and Sulphur Resistant 91 (above).

MUSKMELON VARIETIES *for the* WEST

ALL forms of muskmelons including cantaloupes are placed in one species, *Cucumis melo* L. Within this species there is a great deal of variation, particularly in vine and fruit characters.

Cucumis melo has been divided into a number of botanical varieties, but only two of these are important in connection with the commercial crop. They are var. *reticulatus*—the netted melons, and var. *inodorous*—honey dews and casabas.

The important commercial varieties of muskmelons may be separated into six types:

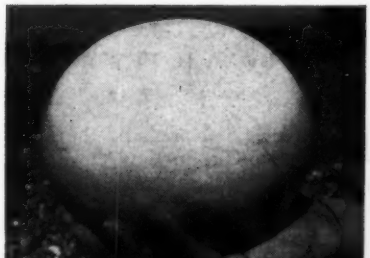
1. Hale's Best type—The varieties of this type, commonly referred to as cantaloupes, are grown extensively in the West and Southwest, more specifically in Arizona, California, Colorado, New Mexico, and Texas. A very large portion of the muskmelon crop grown for shipment to distant markets is of this type.

The vines are medium in size, but have good vigor. The fruits weigh between 2½ and 3½ pounds and are more or less completely netted except for the sutures in some varieties. The melons are slightly oval and have firm, dark, salmon-orange flesh. Those of most varieties withstand distant transportation even when harvested on the "full slip."

2. Bender type—Varieties of this type have medium-sized, vigorous vines. The fruits are usually round, with sparsely netted hard rind, and often with broad, unnetted sutures. They have salmon-orange flesh and weigh 2½ to 4 pounds. Grown mostly for local markets and roadside stands in the eastern and middle western sections of the country, they are usually not suitable for distant shipment.

3. Honey Ball type—Varieties of this type have fairly vigorous vines which produce white-skinned, slight, but evenly netted, round fruits. The flesh is deep salmon-orange, thick and smooth in texture. The melons weigh 2½ to 3½ pounds. They are suitable for distant transportation if handled carefully during harvesting, packing and shipping.

4. Persian type—Vines of this type have large leaves and stems, which give the plants a coarse appearance. The melons are round, have a dark-green skin that is frequently mottled, and are completely covered with fine net. The flesh is salmon-orange, thick and juicy, and has a pleasant aroma. There are two varieties, much alike except for fruit size; fruits of Small Persian weigh about 6 pounds, those of Large Persian may weigh 7 to 8 pounds.



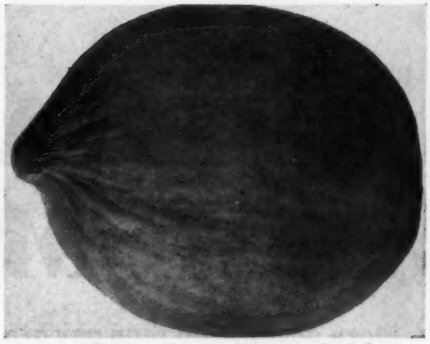
Courtesy Lawrence Robinson & Sons

Honey Dew type of melon is easily recognized by white rind and green flesh. There are many seedsmen's strains; this is Honey Dew variety.

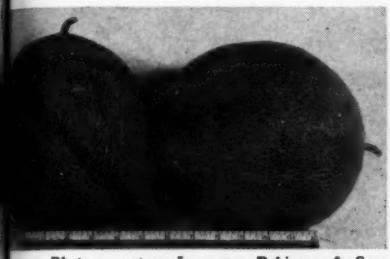
5. Honey Dew type—There are a number of seedsmen's strains of this type, but for the most part they

Photos courtesy Associated Seed Growers, Inc.

Two leading varieties in Northeast, Delicious 51 (left) and Iroquois, are of Bender type.

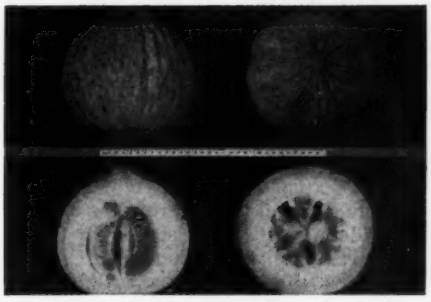


Courtesy Aggeler & Musser Seed Co.



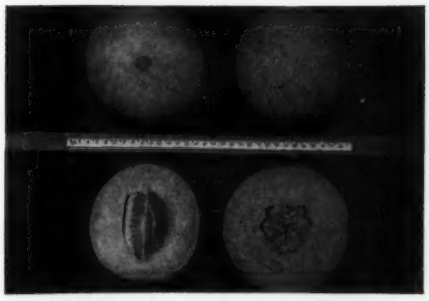
Photos courtesy Lawrence Robinson & Sons

Persian type: Large Persian (above) weighs 1 to 2 pounds more than small Persian (right).



Important Casaba-type melons grown in West are Crenshaw (top photo) and Golden Beauty.

...t popular muskmelon varieties at present in the five producing regions of the United States are: ...RTHEAST: Iroquois, Delicious 51, Harvest Queen, Schoon's Hardshell. SOUTHEAST: Schoon's ...rdshell, Hale's Best Jumbo, Hale's Best 36, PMR 45. MIDWEST: Schoon's Hardshell, Pride of ...sconsin, Honey Rock. SOUTHWEST (Includes Texas, New Mexico, Colorado, Utah, Nevada, ...zona, and California): PMR 45, PMR 450, PMR 6, SR 91, Honey Dew, Large and Small ...rsian, Crenshaw, Golden Beauty. NORTHWEST: Hale's Best 36, Hale's Best Jumbo, Honey Dew.



Melo Gold is a variety of the Honey Ball type. Skin is white with slight but even netting.

...ST SOUTH . . . EAST

By THOMAS W. WHITAKER and G. W. BOHN

U. S. Department of Agriculture

are similar in appearance. The vines are large and vigorous. The melons are round to slightly oval, smooth, and have a hard white rind. The flesh is emerald green, juicy, very sweet and with distinctive flavor. Honey Dews require a longer period to mature than cantaloupes, and weigh 5 to 7 pounds. Under proper conditions the melons can be stored for a considerable period.

6. **Casaba type**—Varieties of this type have large, vigorous vines with coarse stems and large leaves. The melons are unusually large, weighing 7½ to 10 pounds. The exterior may be smooth or with longitudinal corrugations, but not netted. The flesh ordinarily is white or light salmon (as in Crenshaw); it is thick and soft with characteristic flavor. The vines require a long growing period (100 to 110 days) for fruit development. Melons may be kept in storage for three months or longer. THE END.

CLASSIFICATION OF THE MOST IMPORTANT VARIETIES OF MUSKMELONS IN THE UNITED STATES, ACCORDING TO TYPE AND PRINCIPAL USE.

TYPE	IMPORTANT VARIETIES	PRINCIPAL USE
Hale's Best	Hale's Best Jumbo	Local market and shipping
	Hale's Best 36	Processing, local market
	Powdery Mildew Resistant 45*	Shipping
	Powdery Mildew Resistant 450*	Same as above
	Powdery Mildew Resistant 6**	Same as above
	Sulphur Resistant 91***	Same as above
Bender	Pride of Wisconsin	Local market
	Honey Rock	Same as above
	Schoon's Hardshell	Same as above
	Iroquois****	Same as above
	Delicious 51****	Same as above
Honey Ball	Melo Gold	Shipping
	Globo de Oro	Same as above
Persian	Large Persian	Local market and shipping
	Small Persian	Same as above
Honey Dew	Seedsmen's strains	Shipping
Casaba	Golden Beauty	Local market and shipping
	Crenshaw	Same as above
	Santa Claus	Same as above

* Resistant to some biological races of powdery mildew.
** Resistant to all known biological races of powdery mildew.
*** Resistant or tolerant to sulphur applied for control of powdery mildew.
**** Resistant to fusarium wilt.

PRIMA DONNA of the HUMID AREAS

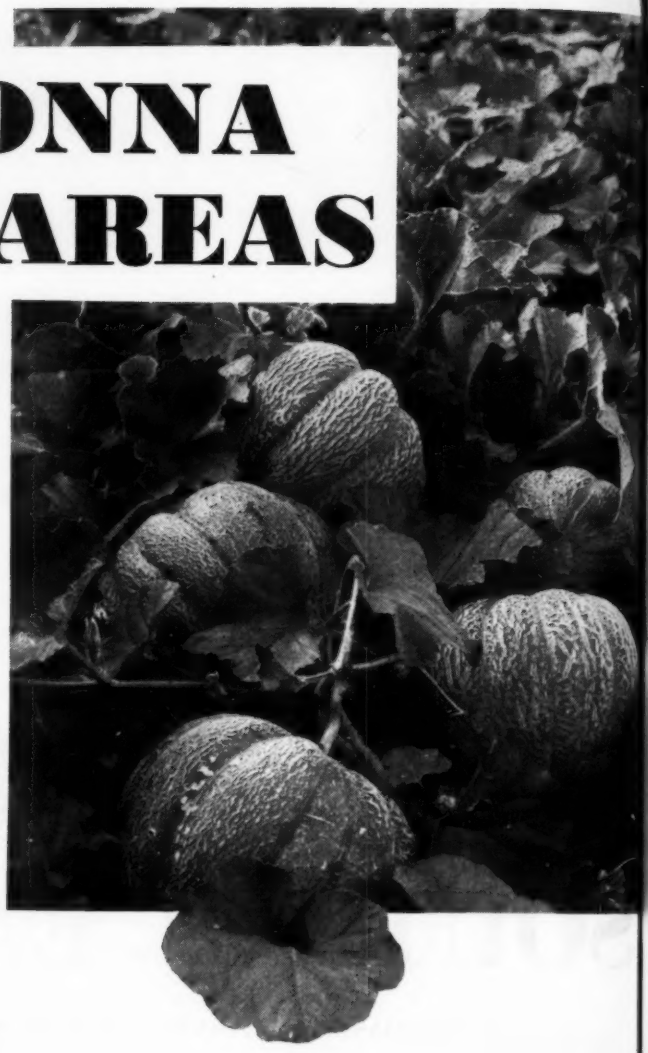
More demanding than any other vegetable crop grown in the East, melons require close attention at each stage of growth

By ROBERT L. CAROLUS
Michigan State University

MUSKMELONS are the prima donnas of the vegetable world. They demand more careful attention to details at each stage of their growth than any other crop.

Even with the best-adapted variety, low temperatures in May or June, drought or heavy rain in July or August, or attacks by various diseases during the season may ruin melon quality or reduce yields to unprofitable levels.

The roots of melon plants will spread as far and develop as rapidly as their vines in warm, moist, well-aerated soils. In fact, frequently the cause of slow vine growth of disease-free plants is due to poor conditions for root development.



Good-looking, high-quality melons are the result of many soil and climatic factors, some of which cannot be controlled by the grower. Pictured at right is a good crop of Long Island Beauty, a green-fleshed melon, growing in a Pennsylvania field.

Photo by Eleanor Gilman

Muskmelon seed (left) is started in hotbeds by Allen F. Hand, Greenwich, N. Y. This band of plants is ready for transplanting. One or two plants per band are best.

If they are not droughty, warm sandy or sandy loam soils located on gentle southern or eastern slopes are best. Some claim that gravelly soils promote better netting in melons. The stones in gravelly soils hold heat and help maintain a more even soil temperature during early spring cold snaps.

Planting the crop on slightly raised hills or beds will provide higher soil temperatures and better aeration. Black polyethylene film spread down the row will also promote rapid growth by "warming up" the soil 3 or 4 degrees and also eliminate weeds in the row.

To help maintain a higher early spring air temperature in melon fields, three drill rows of rye may be planted on fall-plowed ground at right angles to the prevailing wind. The rye should be spaced to allow two or three melon rows to be planted between each rye strip and should be cultivated out as soon as the weather has warmed up and the crop begins to vine.

The lack of adequate organic matter in sandy soils frequently results in a melon crop that makes a quick start but a poor finish in vine growth and fruit production. When sandy soils are adequately supplied with organic matter through green or

(*Continued on page 24*)

Black plastic film is unrolled automatically from rollers mounted at rear of tractor at Kentucky Experiment Station. Angle shoes heap earth over edges of plastic to hold it down. Black plastic mulch promotes rapid growth of melons by warming up soil several degrees and eliminating weeds.

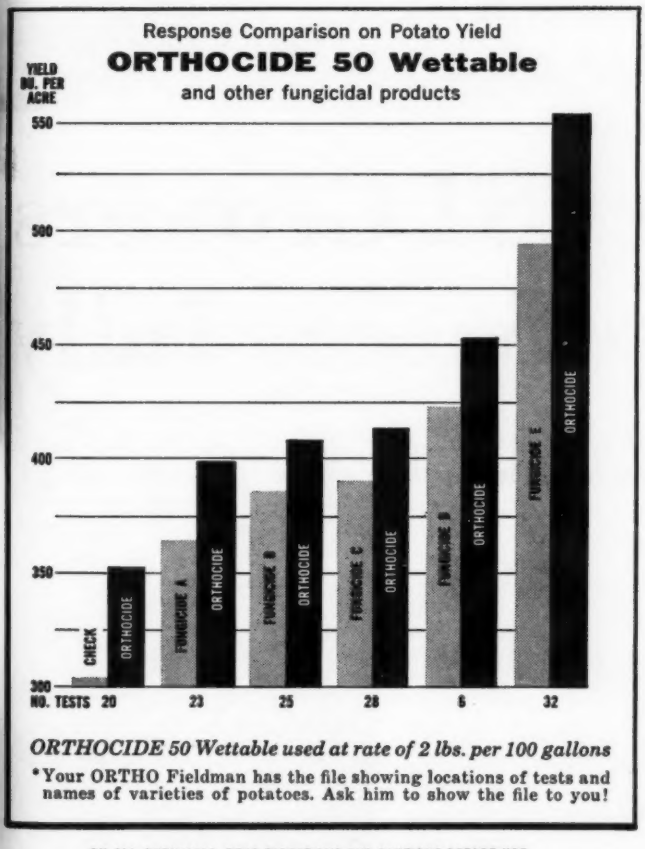
ORTHOCIDE 50 Wettable

(contains captan)

WINS FIRST PLACE

in potato and tomato fungicide comparison tests

Look at these results from 134 comparisons to ORTHOCIDE on 12 varieties of potatoes in 15 states and 3 Canadian provinces*



ORTHOCIDE 50 Wettable used at rate of 2 lbs. per 100 gallons

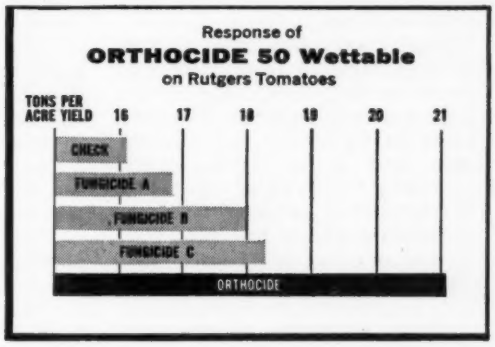
*Your ORTHO Fieldman has the file showing locations of tests and names of varieties of potatoes. Ask him to show the file to you!

See for yourself in the result chart at the left. ORTHOCIDE 50 Wettable proved superior to other fungicides tested.

When you use ORTHOCIDE (contains captan) it can be like "extra money" growing on your potato plants. To get that "extra money" *this crop year*—start an ORTHO program featuring ORTHOCIDE now.

Tomatoes, too!

ORTHOCIDE 50 Wettable increased yield nearly 3 tons per acre over copper 53; exactly 3 tons per acre over competitive fungicide #1; 4¼ tons per acre over competitive fungicide #2 and nearly 5 tons per acre over untreated plants.



Proof like this points the way clearly to greater profit from better yields of better quality tomatoes. Isn't that what you raise them for? Then *use* ORTHOCIDE!

ON ALL CHEMICALS, READ DIRECTIONS AND CAUTIONS BEFORE USE.
T.M.'S REG. U.S. PAT. OFF.: ORTHO, ORTHOCIDE.

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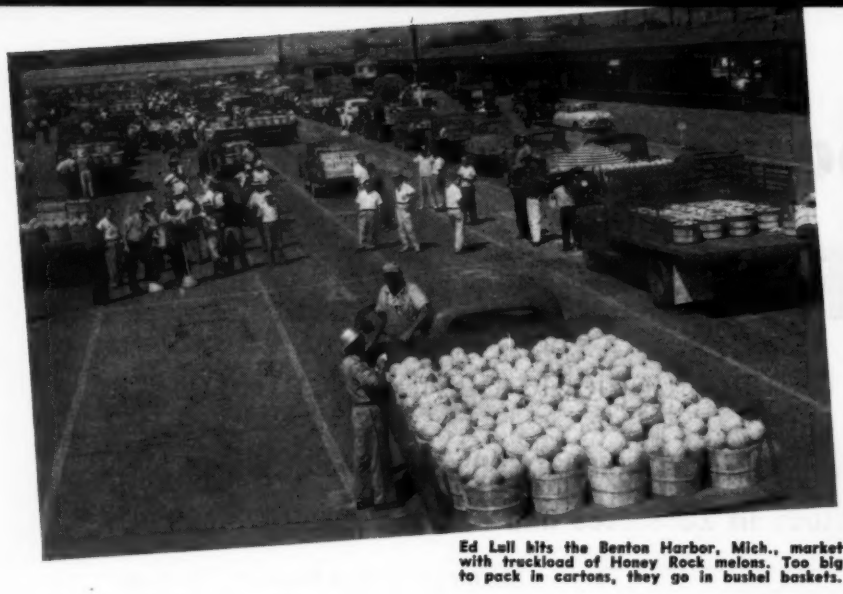
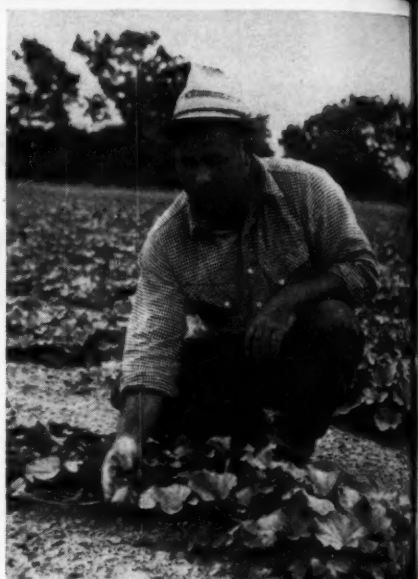


Ed Lull hits the Benton Harbor, Mich., market with truckload of Honey Rock melons. Too big to pack in cartons, they go in bushel baskets.



Don Kalina, Benton Harbor, Mich., checks development of his Improved Honey Rock melons on July 26. He picked 450 bushels per acre in 1954.

These MIDWEST Growers Grow Melons Successfully

Here's how they grow melons in the big Midwestern cantaloupe areas of Michigan, Indiana, Ohio, Iowa

By ELDON S. BANTA

CANTALOUPES are grown commercially in limited areas throughout the Midwest. Major commercial areas are centered in southwestern Michigan, northwestern Ohio, southwestern Indiana, and Muscatine Island, Iowa.

Varieties vary from area to area and from farm to farm. Down at Poseyville, Ind., J. K. Grigsby and son grow mostly Pride of Wisconsin (Queen of Colorado) and Harvest Queen, with a few Honey Rock. Growers in this area of some 2000 acres formerly grew almost entirely Purdue 44, a Hale's Best type. But fruit rot and cracking caused them to switch to Pride of Wisconsin which is resistant to the cracking.

Ted E. McTigue, northwest of Toledo, Ohio, likes Harvest Queen and Improved Honey Rock best, but he grows some Iroquois and Granite State. His neighbor, Joe Kyle, has a strain of Honey Rock that beats any melon he has ever grown for both yield and disease resistance. At Mumma's Fruit Farm, Dayton, Ohio, the newly introduced Burpee Hybrid Muskmelon is finding favor.

Ed Lull, who has been growing muskmelons on his Benton Harbor, Mich., farm for 44 years, grows nothing but Honey Rock. It has been his best quality and highest yielding melon. Michigan grower Don Kalina, prefers the strain of Improved Honey Rock. He tried some of the Improved strain alongside regular Honey Rock on some fusarium wilt-infested land this year. He disked up the regulars and the Improved strain is growing a fine crop.

Jason Wolford, Conesville, Iowa, prefers Jumbo Hale's Best and Golden Delight. The latter holds over for a day or two when ripe.

In most of the Midwest melon growing areas plants are grown in hotbeds or cold frames and transplanted to the field, in order to get melons on the market early.

First area to plant is southwestern Indiana. The Grigsbys get plants into the field by May 15, with a few going in the last few days of April. They grow plants under hotbed sash without heat in 3¼x4-inch plant bands filled mostly with rotted cow manure, but with sand on top. Seeds are pushed into the sand. All manure is first fumigated with MC-2 to kill diseases and insects. Seeds are planted from March 24 to April 1. One plant per band is set in the field by hand.

Examining three varieties of cantaloupe grown on the farm of J. K. Grigsby and son, Poseyville, Ind., are (left to right) John Grigsby with Harvest Queen, Charles Sims with Queen of Colorado, and J. K. Grigsby with Honey Rock.

Ted McTigue likes an electric hotbed for growing his melon plants. He fills plant bands with a mixture of manure and soil, plus a little nitrate of soda. Seeds are planted around May 1.

Kalina prefers muck from Michigan river bottoms for growing his 16,000 melon plants. He mixes in 80 pounds of 4-16-16 and fills 2-inch bands. He usually grows plants in a cold frame, but this year used electric cable and held the temperature around 90° F. It paid off because the spring was cold and wet. He likes to get seed planted between April 21 and 24.

Kalina follows a good rule in preparing his fields for melons: work them as little as possible. He harrows just enough to level the ground after plowing, so that he can set the plants.

Bernard Mumma, of Dayton, Ohio, drives tractor while his workers on transplanter drop melon seeds in furrows opened by transplanter shoes. Mumma finds this an easy way to plant seed.

In most areas rows are marked off and plants set by hand. Spacing varies mostly according to vigor of the variety and equipment used. The Grigsbys in Indiana set plants 5x5 feet. Lull in Michigan 5x4½, McTigue in Ohio 80 inches by 4 feet.

Lull and his son adapted a strawberry transplanter for transplanting melon plants by widening the shoe and making a few minor changes. Kalina likes to dig holes for his melon plants with a 4-inch post hole digger on his tractor.

There are about as many different ways of fertilizing melons as there are growers. Ed Lull in Michigan uses nothing but manure, which he spreads during December and January at the rate of 10 to 15 tons per acre. He has tried a little commercial fertilizer, but it never made much difference, with one exception.

Two years ago he applied Vigoro through his irrigation system after a heavy rain. His plants were beginning to show nitrogen deficiency. The Vigoro revived the plants.

Kalina likes to plow under a heavy crop of rye or vetch plus 300 pounds of Cyanamid per acre before planting land to melons. In addition 8 or 10 tons of manure per acre are spread during the winter months. A week after plants are set he side-dresses with 250 to 300 pounds of ammonium nitrate (33% N). Three weeks later he gives them another side-dressing, this time 400 pounds per acre of 3-9-27. The final treatment comes about July 20 as melons are laid by with an application of 150 pounds of ammonium nitrate per acre. He also adds Epsom salts to his pest sprays to bring up the magnesium in plants and improve quality.

The Grigsbys in Indiana plow under a good crop of rye plus 100 pounds of ammonium nitrate per acre. They apply 200 pounds of 12-12-12 per acre when plants are set and side-dress with another 100 pounds when plants are laid by.

Irrigating melons has paid off for Michigan growers during the past few dry, hot seasons.

McTigue like timothy best for plowing under, but does use rye sometimes. With the green manure crop he plows under 400 pounds of ammonium nitrate per acre. Before setting he broadcasts and disks in 500 pounds per acre of 8-14-14.

McTigue believes there is no substitute for the hand hoe in growing melons. He gives his melon fields two good hoeings before laying by, and about six thorough but shallow cultivations.

The Grigsbys, McTigue, and Kalina set plants so they can cultivate both ways until vines begin to fill the middles, then they just run one way. Shallow cultivation, early in the season, mostly for weed control, is very important.

Lull says that if he hadn't irrigated during the past two dry seasons in Michigan he would have had less than half a melon crop. He applies 1½ inches per application with a pump delivering 750 gpm. Aluminum pipe and Rainbird No. 20 sprinklers carry water from a river.

Sweep cultivator used by Don Kalina controls weeds in melon rows easily and cultivates shallow, thus does not disturb melon roots.

Kalina has irrigated melons since 1948. When plants are young, he waters every 10 days if no rain occurs and every 5 days when melons are growing and ripening.

Basic in disease control in most midwestern areas is a rotation program with two to three years between melon crops. This is especially true where fusarium wilt is prevalent.

Lull grows a crop of strawberries between melon crops, thus making three years between melon crops on the same field. The Grigsbys grow corn or grain between melon crops.

Insect and disease control begins in the plant growing beds on most farms. Kalina sprays beds a couple of times with methoxychlor and Dithane (nabam), while the Grigsbys dust with Marlate a couple times to keep beetles out. If beetles are controlled early, there is little chance for bacterial wilt being transferred to the field.

Dusting or spraying in the field begins soon after plants are set. Kalina follows a thorough spray program up until harvesttime. He covers fields every ten days with a mixture of ½ pound parathion and 1½ pound Dithane Z-78 per 100 gallons of water, using 200 gallons

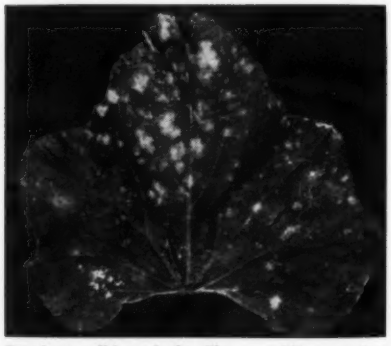
(*Continued on page* 25)

MELON DISEASES

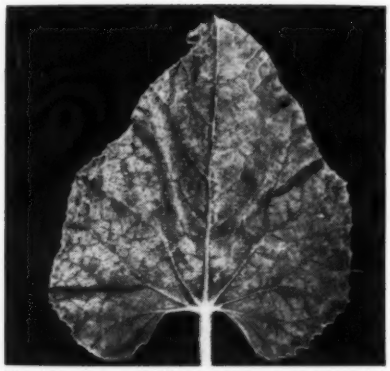
How to Know Them
How to Fight Them

By D. E. ELLIS
North Carolina State College

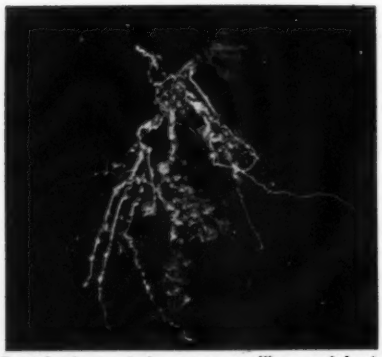
Downy mildew lesions on lower leaf surface. Note dark, downy spore masses which can best be seen in the early morning as a gray smudge.



Powdery mildew looks like a white powder.



Mosaic causes a yellow and green mottle with dark green bands along the veins of the leaf.



Root knot nematodes cause swellings and knots on roots which later decay. Plants may wilt.

MAJOR diseases affecting muskmelons vary in severity from year to year and from one production area to another.

Certain diseases such as downy mildew, if not controlled, may destroy entire plantings; certain other diseases, such as root rots and those caused by parasitic nematodes are less spectacular, but take their toll year after year. Brief descriptions of the more common and important muskmelon diseases follow:

DOWNY MILDEW

This disease, caused by an airborne fungus *(Pseudoperonospora cubensis)*, is frequently a major disease of muskmelon in the production areas along the Eastern Seaboard and Gulf states. It is less important elsewhere. The early symptoms appear as small yellowish spots on the leaves. These spots increase in number and size and turn brown in color as the affected tissue dies.

The fungus produces countless numbers of spores, mostly on the under surfaces of the leaves. These spores can often be seen in mass in the early morning as a dark downy smudge on the lower leaf surface. Under conditions of high humidity the fungus spreads rapidly, and entire fields may be destroyed within a few days if the plants are not protected with fungicides.

A unique feature of this disease is the way the fungus overwinters and spreads. No special overwintering stage is known and the fungus survives the winters in Florida or other subtropical areas on living cucurbit hosts (it also affects cucumber, watermelon, and squash), and each spring spores are carried northward by the wind from field to field starting the disease in new localities. Plant pathologists along the Eastern Seaboard maintain a warning service which reports the northward progress of the disease, and growers are warned to start fungicide application at the proper time.

Muskmelon downy mildew is effectively controlled by timely application of fungicides containing fixed coppers or certain of the carbamates. Resistance to the disease has been and is being incorporated into commercial varieties by a number of investigators. Three resistant varieties, Rio Gold, Texas No. 1, and Georgia 47 have found some place in the production picture and are being used as sources of resistance in further breeding work.

POWDERY MILDEW

In contrast to downy mildew, powdery mildew is most important in the arid, irrigated regions of the Southwest. This is also a fungus disease *(Erysiphe cichoracearum)* that appears on the leaves as a white powder composed of the spore-bearing branches and spores of the fungus. Badly affected leaves shrivel and die.

The most promising control of powdery mildew is through the use of resistant varieties. The following varieties are resistant to one or more races of the powdery mildew fungus: Powdery Mildew Resistant cantaloupes No. 5, No. 6, No. 7, No. 45, and No. 50, developed in California, and Georgia 47, which is also resistant to downy mildew.

ANTHRACHNOSE

This fungus disease (caused by *Colletotrichum lagenarium*) is frequently seed-borne. It affects both foliage and fruits, causing brown spots on the leaves and sunken lesions on the fruit.

The disease is readily controlled by rotation with noncucurbit crops and by using disease-free seed produced in arid regions of the West where the disease seldom, if ever, occurs. Certain of the carbamate fungicides are effective against anthracnose. Seed treatment with mercuric chloride solution is also frequently recommended.

BACTERIAL WILT

Caused by *Erwinia tracheiphila*, bacterial wilt is favored by relatively cool weather and is most important in the Midwest, North Central, and Northeastern United States. However, it frequently causes losses in early plantings as far south as central North Carolina. Affected plants first show only one or two wilted leaves, but eventually the whole plant wilts and dies.

The causal bacterium has a remarkable and unusual life history. It over-

(*Continued on page* 21)

Polyethylene cover is laid with tractor over strawberry plants. Small perforations provide drainage.

After film is laid, slits are cut with a razor, and the plants pulled through. Berries rarely touch the soil.

Far greater percentage of crop can now be sold. Another use of polyethylene film is for an air-seal when fumigating for weed control.

Polyethylene mulch cover

brings a big return

Film made of BAKELITE Brand Polyethylene is bringing bigger profits to more and more growers of vegetables and other crops, through greater yields or a higher percentage of marketable produce.

For example, the experience of the Ishibashi Brothers, Torrance, Calif., with strawberries: "We have been saving as much as 75 to 85 per cent of the normal berry loss experienced when crops are grown and harvested directly on the ground. In this particular case, one berry saved on each plant is enough to pay for the polyethylene. We get a bigger crop to market at just the time when prices are at their premium."

Polyethylene film used by Ishibashi Brothers is made by **Extruders, Inc.**, Hawthorne, Cal.

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STATE NEWS

- **California's Spring Potato Deal Best Since 1936!**
- **Cabbage Worms in New York Showing Resistance to DDT**

Best in Two Decades!

CALIFORNIA—Despite a smaller crop, the state's spring potato deal this year is reported as the best, from the monetary return side, since 1936.

Kern County growers and shippers marketed around 31,000 carlots as against 36,000 in 1955.

Industry officials are concerned as to the effects this profitable deal will have on production in 1957. Every good year has been followed by one of large plantings and large crops, which led to lowering of prices and disastrous deals.

Recommended acreage for Kern County in 1957 is around 40,000 acres.

Tomato growers in this state can look forward to one of the best seasons in the industry's history, says Howard J. Wilson, secretary-manager of the California Tomato Growers Association.

A record total of more than 2,500,000 tons of tomatoes is forecast for the state harvest. Wilson reports all fields are in excellent condition.

At a recent grower meeting the price of rejected tomatoes or haul-backs was discussed. Growers were of the opinion they would like to see a standard price and asked association directors to investigate the situation.—*Neale Leslie.*

Immunity

NEW YORK—Cabbage worms seem to be developing immunity to DDT. The cabbage looper particularly has become more resistant to this insecticide, and the imported cabbage worm now is showing less susceptibility to DDT, entomologists at the Geneva Experiment Station report.

DDT concentrations in western New York have been stepped up to 3% to 5% as compared with 1% to 2% concentrations found effective a decade ago when the insecticide was first introduced.

Late blight and aphids have been discovered in scattered potato areas of upstate New York and on Long Island.

Prof. Robert Dickey, plant pathologist, New York State College of Agriculture, warns growers that "Potato vine growth is especially lush this year and plants are in excellent condition so that strict adherence to a good spray program of appropriate fungicides and regular applications should be employed to protect against blight."

The disease, which causes irregular dark brown to black watersoaked areas on the potato leaves and stems, can spread rapidly with cool, damp conditions prevailing at night followed by warm humid days.

Bordeaux mixtures or fixed copper provide effective protection. Organic fungicides such as Nabam, Maneb, and Zinet, are also effective.

Prof. Dickey also states that late blight can be controlled by applying dusts containing 6% to 7% metallic copper every six to seven days.

Pink and green aphids should be controlled with parathion or Systox, according to Cornell entomologist W. A. Rawlins.

Parathion (1 pint of 25% to the acre), and Systox (¾ pint to the acre), can be mixed with the fungicides for controlling late blight and aphids at the same time, Rawlins explained.

POTATO QUEEN IS CROWNED

The 1956 Empire State Potato Queen, Sue Blick, of Marion, is crowned at the 23rd annual Potato Field Day, at Wayland, by Marjorie Furman, of Savannah. Eighteen-year-old Sue is the daughter of Mr. and Mrs. Peter Blick, Jr., Wayne County growers. Marjorie is also from Wayne County.

WHY HOE IT ALONE?

This is the title of an interesting and descriptive booklet explaining the aims and purposes of the Vegetable Growers Association of America, the only national organization composed of and controlled by vegetable growers. To obtain a copy write to Mr. Joseph S. Shelly, Sec'y, Vegetable Growers Assoc. of America Inc., 528 Mills Bldg., 17th & Pennsylvania N.W., Washington, D.C.

Second Year Plastic Mulches

KENTUCKY—E. M. Emmert, Agricultural Experiment Station horticulturist, says Kentucky Wonder beans planted this year through plastic mulches used last year came through earlier and had a better stand than beans on other plots.

This spring the beans were planted through the same holes in the plastic with a corn-jobber. These second-year plots were compared with the "no mulch" plots and the freshly laid plastic mulch plots.

The only cultivation on the second-year plots was between the plastic strips. Soil underneath was not disturbed. This soil

(*Continued on page 29*)

Know Your . . . VEGETABLE SEEDS

By VICTOR R. BOSWELL
U.S. Department of Agriculture

PEPPER

THE appearance of pepper seed suggests a somewhat enlarged, nearly white, and fuzzless tomato seed with a deeply pitted surface. Tomato and pepper belong to the same family, *Solanaceae*, but the seeds of the two behave quite differently. Tomato seed is long-lived and tolerant to relatively rough handling and to storage conditions neither very dry nor very cool. Pepper seed is only medium-lived, must be processed and dried quickly and with care, and stored in a cool, dry place. Pepper seed also requires a warmer soil for germination than tomato does and germinates more slowly.

Production of peppers has been increasing steadily in this country for many years. Production of pepper seed is now roughly half that of tomato seed, although the planted acreage of peppers for food is less than one-tenth that of tomato. Pepper seeds are about twice the size of tomato seeds and it takes four to five times as many pepper plants as tomato plants to plant an acre.

Seed pepper acreage averaged about 2,950 acres annually 1948 to 1952 and was about 4,800 acres in 1954. Production was about 130,000 and 200,000 pounds for those two periods.

Our main sources of pepper seed are New Jersey, Georgia, California, Florida, and Louisiana.

Pepper seed is recovered by methods similar to those used for tomato seed except that any adhering material is much more easily removed than from tomato seed. Fermentation is not necessary and is rarely used. The seed must be dried very thoroughly and promptly after washing if its viability is to be preserved.

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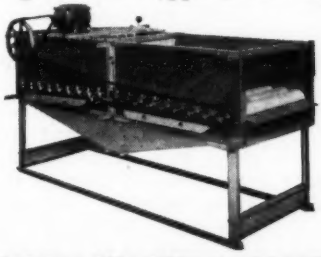

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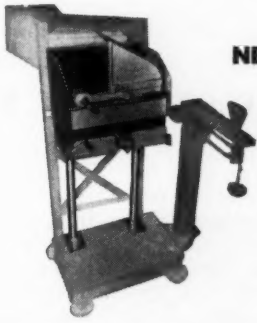

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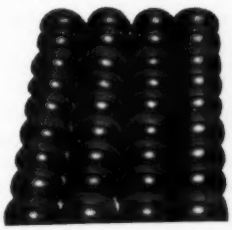

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CANTALOUPE ACREAGE, YIELD, PRODUCTION IN U.S.
Commercial Crop for Fresh Market
1955 Summary with Comparisons[1]
(From USDA)

SEASONAL GROUP AND STATE	ACREAGE			YIELD PER ACRE			PRODUCTION		
	5-year av. 1949-53	1954	1955	5-year av. 1949-53	1954	1955	5-year av. 1949-53	1954	1955
	Acres	Acres	Acres	Crt.[2]	Crt.[2]	Crt.[2]	1,000 crt.[2]	1,000 crt.[2]	1,000 crt.[2]
Spring:									
Texas[3]	9,500	22,200	17,500	80	65	100	760	1,443	1,750
California	15,560	15,000	12,800	127	120	115	1,973	1,800	1,472
Florida	1,440	2,000	1,900	53	45	70	76	90	133
Arizona	12,680	14,500	16,500	150	180	140	1,922	2,610	2,310
Group total	31,580	53,700	48,700	131	111	116	4,123	5,943	5,665
Early Summer:									
Georgia	7,320	8,000	7,600	70	60	75	511	480	570
South Carolina	5,980	6,500	6,800	43	40	40	256	260	272
Arizona	10,440	6,800	6,600	144	150	65	1,501	1,020	429
Group total	23,740	21,300	21,000	96	83	61	2,268	1,760	1,271
Mid-Summer:									
Texas[3]	13,740	15,000	14,000	54	45	45	740	675	630
California	27,740	30,900	33,800	152	167	151	4,199	5,158	5,112
Cantaloupes	25,340	29,000	31,500	155	170	155	3,919	4,930	4,882
Persians	2,400	1,900	2,300	117	120	100	281	228	230
New Mexico	790	400	600	91	90	55	75	36	33
Oklahoma	1,200	800	1,000	55	40	65	67	32	65
Arkansas	1,480	1,400	1,900	54	50	70	80	70	133
North Carolina	4,500	4,700	5,400	47	40	55	212	188	297
Maryland	2,320	1,800	2,000	83	65	65	201	117	130
Delaware	830	1,100	1,200	84	60	50	71	66	60
Indiana	3,520	4,400	4,400	82	80	95	286	352	418
Illinois	1,360	1,100	1,100	60	60	60	82	66	66
Missouri	1,680	2,200	2,700	155	65	85	259	143	230
Iowa	970	950	900	78	70	75	76	66	68
Washington	1,460	650	650	160	115	130	235	75	84
Group total	61,590	65,400	69,650	107	108	105	6,583	7,044	7,326
Late Summer:									
Michigan	4,100	4,500	4,300	98	110	90	404	495	387
Ohio	1,740	1,600	1,600	60	60	70	104	96	112
New Jersey	1,560	1,900	1,900	81	60	65	126	114	124
Kansas	590	800	900	104	170	160	58	136	144
Oregon	450	200	350	128	130	180	58	26	63
Colorado	2,180	1,900	2,200	107	125	100	228	238	220
Utah	450	250	270	157	170	200	68	42	54
New York	1,400	1,600	1,700	111	105	140	162	168	238
Group total	12,530	12,750	13,220	97	103	102	1,208	1,315	1,342
ALL STATES	129,440	153,150	152,570	110	105	102	14,183	16,062	15,60

[1]Includes casabas, Persians, and other muskmelons; but not honey ball and honey dew melons.
[2]Jumbo cantaloupe crate, approximately 83 pounds.
[3]All Texas cantaloupe production included in mid-summer group prior to 1953.

MELONS IN THE WEST

(*Continued from page 9*)

Proper irrigation is the most important single cultural practice connected with western cantaloupe production. It begins long before the crop is in the ground. A preplanting irrigation is vitally important. It supplies subsoil moisture which cantaloupes need in later stages of growth. It also facilitates early weed control. Weeds sprouted by the preplanting irrigations can be destroyed in the prebedding and bedding operations.

Since cantaloupe seeds are sown in dry soil, some time must elapse between this initial irrigation and planting. Immediately after planting, however, the field is watered to germinate the seed. This time, enough water is applied to wet the soil up past the seed line and thoroughly soak the inner portions of the bed. Allowing the beds to become moistened only as far as the seed line is a poor practice. It deposits soluble salts where they can interfere with germination.

The second irrigation (or third, if two are used to get a stand) is generally withheld until thinning time. It softens the soil surface and makes thinning easier. The next two irrigations should be heavy, soaking applications to build up reserve moisture in the beds. They are usually two to three weeks apart.

Subsequent irrigations needn't be heavy, but should provide enough moisture so the growing plants do not have to draw on the reserve supply in the beds. These irrigations normally come at 7- to 10-day intervals until harvest.

Throughout the growing period it is important to apply the right amount of water at the right time. Consequently, irrigations should be timed by the condition of the plants, not by the calendar. Keeping the soil too wet or too dry adversely affects root development.

Whether or not to irrigate after harvest has begun is often a problem, as melon fields may be picked from 5 to 20 times. Generally it isn't necessary to irrigate the heavier soils if they were properly irrigated earlier. It may be advisable to run water during the harvest season on lighter soils, on improperly handled heavier soils, or if harvesting is to extend over a long period.

Fertilizing Practices

Proper fertilization is essential for a good set of fruit and vigorous, shade-producing vines. For maximum production cantaloupes need a large quantity of nitrogen, which most western soils lack. On occasion phosphate may also be needed, but potash is seldom, if ever, recommended.

The type or kind of nitrogen fertilizer applied to cantaloupes is not too important. However, sodium nitrate is not recommended because most western soils are already high in sodium salts and these salts are responsible for many of the soil structure difficulties in this area. Generally the needs range from 60 to 150 pounds of actual nitrogen per acre.

Phosphate fertilization is necessary only on hotcap plantings or those growing on phosphate-responsive soils. When needed, 45 pounds of P_2O_5 per acre is generally ample.

Most cantaloupe soils are well-fortified with potash, and the addition of this fertilizer is not necessary. Melons seem able to utilize natural soil potash readily.

When applying fertilizer, both method and time are very important. Two-thirds of the required nitrogen should go on before or at planting time. The remainder is applied after thinning. When banding in, the material should be placed 4 to 6 inches away from the seed on the furrow side of the row and about 4 inches deep. Irrigation water will then move the fertilizer through the root zone. If agricultural ammonia is used, it may be applied in the irrigation water or injected 4 to 6 inches deep and 6 to 8 inches to furrow side of plants.

All phosphates should be applied before planting. They can be broadcast, injected, run in irrigation water, banded or side-dressed. When banding, prosphates should be placed close to the seed line.

How to Train Vines

Vine-training and pollination are two more problems facing cantaloupe growers. Cantaloupe runners should be trained away from the furrows up onto the beds, where they will not interfere with irrigation, cultivation, or harvesting. The vines should be trained so that the undersides of the leaves are not exposed to the sun, and should be trained compactly over plant crowns to protect the fruit.

Cantaloupes require insect pollination, and often domestic honey bees are used for this purpose. THE END.

MELON DISEASES

(*Continued from page* 16)

winters in the bodies of spotted and striped cucumber beetles, and plants become infected when fed upon by infected beetles. Since this is the only way plants are infected under natural conditions, the only effective measure is to control the beetles through the use of insecticides.

ROOT KNOT

Root knot *(Meloidogyne spp.)* is a serious disease of muskmelon in the southern states. The nematodes cause swellings and knots on the roots which later decay, resulting in unthrifty, stunted, and unproductive plants. In severe cases of infestation plants may wilt on hot summer days and often die prematurely.

Soil fumigation with ethylene dibromide or a dichloropropane-dichloropropene mixture and two- to four-year rotations with resistant crops such as small grains, corn, velvet beans, and crotalaria are effective control measures.

MOSAIC

Muskmelon is susceptible to several virus diseases which are sometimes responsible for rather severe losses. Common muskmelon mosaic causes a yellow and green mottle with dark green bands along the leaf veins. Affected plants usually have deformed leaves and flowers and set a poor crop of fruit.

The virus is seed-borne and the only practical control known is to plant disease-free seed. Attempts to control the disease by controlling the insect vectors (aphids) have been unsuccessful. Breeding for resistance to virus diseases is probably the best approach to control, and several plant breeders are attacking this problem.

OTHER DISEASES

Muskmelon is subject to several additional diseases that are more or less important depending upon locality and seasonal conditions. Among these are southern blight *(Sclerotium rolfsii)* which affects stems and fruits; brown leaf spot *(Alternaria cucumerina)*; fusarium wilt *(Fusarium oxysporum f. melonis)*; verticillium wilt *(Verticillium albo-atrum)*; root rots caused by several soil-inhabiting fungi; fruit rots, caused by a number of different pathogens; seed decay and damping-off caused by soil-borne fungi, especially species of *pythium* and *Rhizoctonia*.

For detailed information on the control of muskmelon diseases in your locality contact your extension farm agent or write to your state experiment station. THE END.

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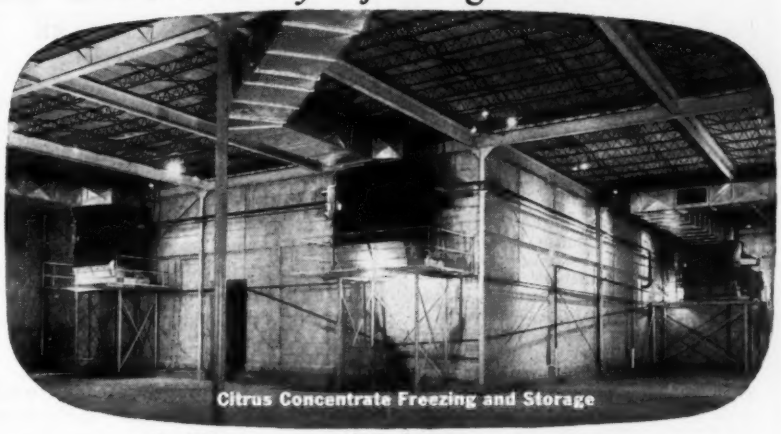

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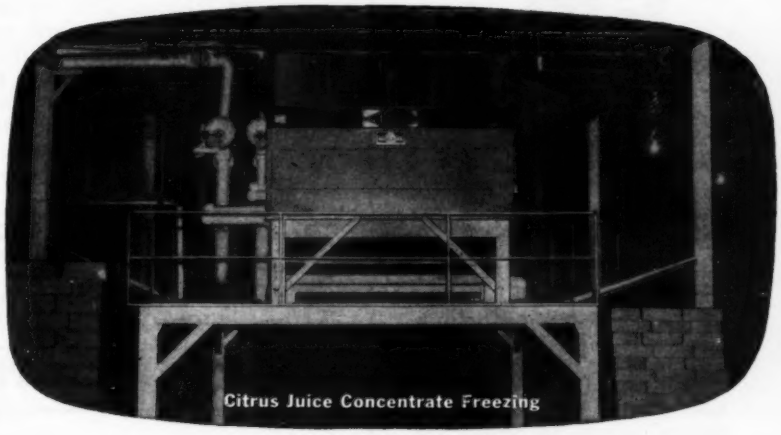

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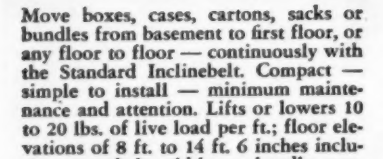

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FOLIAR FEEDING of Maryland Melons

Nutrient deficiencies were a problem—until growers tried foliar sprays of important elements

By FRANCIS C. STARK
University of Maryland

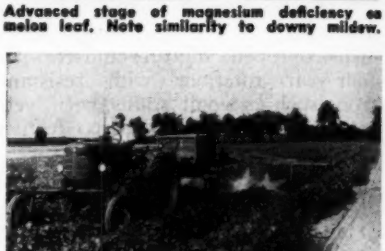
CANTALOUPE growers along the Middle Atlantic Seaboard used to be plagued with disorders that were generally diagnosed as downy mildew and Macrosporium leaf spot. The control for these diseases, 15 to 20 years ago, rested in the application of copper sprays and dusts, and frequent applications were made. Even with these precautions these blights continued to cause havoc.

Then about 1940 research workers at the Maryland Agricultural Experiment Station discovered that the symptoms for magnesium deficiency closely resembled downy mildew; and that the symptoms for calcium deficiency closely resembled Macrosporium leaf spot. Sensing the possible importance of these discoveries, a study of the nutrient needs of the cantaloupe was begun.

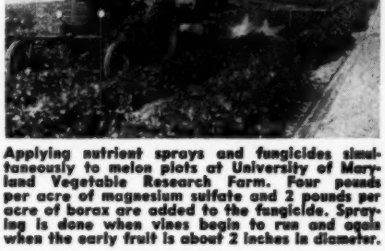
The studies revealed that the nutrient elements directly associated with fruit quality were nitrogen, magnesium, and boron. Other elements, such as potassium and calcium, were found to be important to the extent that they influenced the uptake of the three nutrients named.

Sweeter Melons

The next problem was the translation of the results from the greenhouse to the field. In 1949 the field studies began, employing both soil and foliar applications of fertilizer materials. That first season was accompanied by very dry weather, and the test plots receiving only soil applications showed no response.



Advanced stage of magnesium deficiency on melon leaf. Note similarity to downy mildew.



Applying nutrient sprays and fungicides simultaneously to melon plots at University of Maryland Vegetable Research Farm. Four pounds per acre of magnesium sulfate and 2 pounds per acre of borax are added to the fungicide. Spraying is done when vines begin to run and again when the early fruit is about 2 inches in diameter.

The plots receiving magnesium sulfate and/or borax as a foliar spray gave very marked increases in percentage of soluble solids, as shown in Table 1. *(Note: The per cent of soluble solids is a measure of the sweetness of melons. By law, Maryland melons shipped out of state in crates must measure 8% soluble solids. 8% soluble solids would normally be rated good; 10% or above would be considered excellent.)*

With the encouraging results of the first year with foliar feeding, the work was continued until data were obtained from six seasons. In four seasons a beneficial effect was obtained from spraying with magnesium sulfate and borax; and in the other two years (1950 and 1953) the

TABLE 1. PER CENT SOLUBLE SOLIDS OF MELONS SPRAYED WITH NUTRIENTS, 1949.

Check (zineb only)	8.87
Zineb plus K_2SO_4 (4 pounds)	8.88
Zineb plus KCl (4 pounds)	9.31
Zineb plus $MgSO_4$ (4 pounds)	9.87
Zineb plus borax (2 pounds)	10.33
Zineb plus $MgSO_4$ plus borax	10.40
L.S.D. at 5%	0.71

TABLE 2. AVERAGE PER CENT SOLUBLE SOLIDS AND NUMBER OF FRUITS PER ACRE GREATER WITH MORE THAN 8% SOLUBLE SOLIDS FROM Mg PLUS BORAX SPRAYS AND CHECK IN SIX SEASONS.

Year	% soluble solids		Number of fruits with more than 8% soluble solids	
	Zineb only	Zineb plus Mg plus B	Zineb only	Zineb plus Mg plus B
1949	8.8	10.1	2080	2530
1950	8.2	8.3	3820	3680
1951	6.5	7.1	1370	1610
1952	8.0	8.5	2900	4150
1953	8.4	8.4	7050	6990
1954	10.8	11.0	7150	7270
Average	8.4	8.9	4090	4370

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Canada Packers, Inc.,
24 State St., New York City.
Phone—Hanover 2-4720

Gerber Products Co.,
Bullshead Station Box 8, Rochester.
Phone—Genesee 9100

OHIO

The Castellini Company,
11 W. Water St., Cincinnati 2.
Phone—Parkway 1-7711

response was not deleterious. Percentages of soluble solids and yields are shown in Table 2.

Fertility Program

A complete fertility program was developed for cantaloupe growers on the Eastern Shore of Maryland. This program may be summarized as follows:

1) Use dolomitic lime or limestone to supply magnesium and calcium and to adjust the soil pH to 6.5.

2) If a rye cover crop is plowed down, apply 300 pounds per acre of 10-10-10 to the rye in February.

3) Apply 500 pounds per acre of 4-8-12 in bands with the planter. Fertilizer should contain 40 pounds of borax per ton.

4) Side-dress with 500 pounds per acre of 10-10-10 when the vines begin to run.

5) Spray with magnesium sulfate (4 pounds per acre) and borax* (2 pounds per acre), added to the fungicide when the vines begin to run, and again when the early fruit is about 2 inches in diameter.

Fungicides must still be applied to insure control of downy mildew and Macrosporium leaf spot. By obtaining satisfactory levels of magnesium and calcium, however, growers are able to get field control of these blights, and no longer are spraying with a fungicide to correct a nutrient deficiency. THE END.

*Polybor, a more soluble boron source, may be used at 1 pound per acre.

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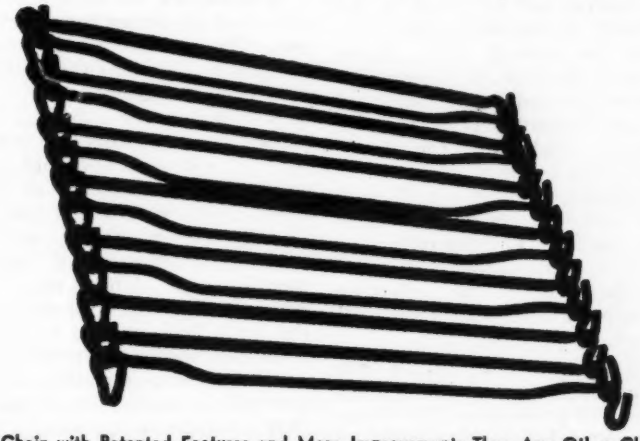

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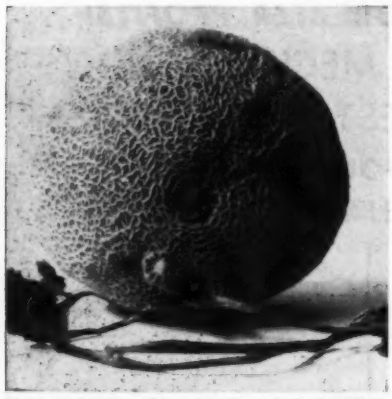


Many muskmelons shipped to the principal markets of the United States are picked too green, and this has injured later sales. The best-eating melons are those grown on healthy, disease-free vines and picked at a fairly ripe stage. A good sign of harvest maturity for melons of the netted type is the condition known as full slip, shown above. Note that the stem has separated from the melon under slight pressure, leaving a clean, cuplike hole.

USDA Photographs

This melon has been picked at the half-slip stage. About half the stem remains attached to the melon when the other part has separated from it under pressure. As a rule, this signifies a less degree of ripeness than the full slip. Particularly in the East, however, such factors as rainy weather, disease, and insect infestation may cause melons to separate from the vines when they are still unripe.

PRIMA DONNA

(*Continued from page* 12)

animal manures, their water and fertilizer holding capacities are increased and internal soil drainage is improved. Even sandy soils become hard and impenetrable to plant roots when their organic matter content falls below 1%. Soils must be of good structure to allow melon roots to permeate the second foot.

Planting melons on an alfalfa sod offers one of the best methods of assuring that some decomposing organic matter will be down in the second foot. If the alfalfa has been harvested for several years, extra potash in the fertilizer will generally be required to compensate for part of the potash removed in the hay. Planting of sorghum in the South or Sudan grass in the North on well-fertilized fields will produce 5 to 7 or more tons of dry material to disk down in the fall. The use of Sudan grass as a green manure has increased the yield of the following melon crop by over 100 bushels of No. 1 melons per acre.

Recent observations indicate that a well-fertilized crop of fall-planted rye grass will produce excellent conditions for melons and supply as much organic matter as a rye cover crop. It is possible that a well-fertilized spring-planted green manure crop disked in during late summer and then followed by a cover crop that is heavily fertilized in the early spring will supply a maximum quantity of valuable organic matter that contains from 40 to 60% of the melon crop's fertilizer requirement.

Where animal manures are available, they can be very efficiently used to supply organic matter and part of the fertilizer for the melon crop. If a 10 ton per acre application of manure is "plowed in" on sandy soils, irrigation is necessary if the season is dry. Manure in melon hills can also be injurious if adequate moisture is not available.

Liming for Quality Melons

Muskmelons are more sensitive to soils that are either too sweet or too sour than either watermelons or cucumbers. Various types of bronzing, brown spotting, or yellowing may occur on the leaves of melons grown on sandy soils that are below pH 5.5. On soils approaching neutrality, pH 7.0, deficiencies of magnesium with yellow and green mottled leaves or of potassium with brown- or yellow-edged leaves frequently occur. Under either condition maturity is frequently delayed, the fruit flesh is thin and light in color, and netting is poor.

A sufficient quantity of finely ground dolomitic limestone (lime that contains magnesium), applied in the fall, will bring the soil up to a pH value of 6.0 to 6.5. If it is necessary to lime in the spring before planting a melon crop, a comparable quantity of hydrated magnesium lime is best.

Fertilizing for High Yields

Roots of young melon plants are very sensitive to fertilizer salts. On warm, sandy soils much of the fertilizer utilized by a green manure or cover crop preceding the melon crop will become slowly available during the summer and should be very effective in the development of the second and third cycles of fruit.

Although a broadcast application of fertilizer will require more fertilizer than row or hill application, it is advisable to promote widespread root development, increasing drought resistance and lessening the possibility of fertilizer injury.

The rate of fertilizer application will vary with the soil type, the cover or manure material turned in, the pH of the soil, and the availability of irrigation. The following ranges in rates and analyses are suggested in pounds per acre: 600 to 1200—12-12-12 after rye or other cover; 400 to 900—5-20-10 on manured areas or on soils below pH 5.8 to 6.2; 400 to 900—5-20-20 on unmanured areas, following a legume or on soils above pH 6.2 to 6.5.

Light, sandy soils should be fertilized at the lower rate suggested unless irrigation is available. On the more fertile types of sandy loams or with irrigation the heaviest rates may be used.

Work the fertilizer into the soil as deeply as possible at least 10 days before planting. Remember that part of the fertilizer used on the cover or in manure will reduce the actual amount required for the muskmelon crop. After the crop has become established, 100 to 150 pounds of ammonium nitrate may be profitably used on melons grown in more northern areas where nights are cool.

Cultural Operations

To obtain earlier fruit, seed should be started three weeks before field setting in 3x3x4 or 4x4x4 ¾-inch veneer bands in a cold frame and transplanted to the field when the plants are about 4 to 6 inches high. During germination the cold frame temperature should be maintained at 80° to 85° F., if possible. After the plants are up, an attempt should be made through ventilation to keep the temperature below 80° F. to keep the plants from elongating too rapidly.

Banded plants should not be set in the field until danger of frost is over, unless they can be covered with plant protectors.

Melons may be direct-seeded in hills about 10 days before the frost-free date or a week earlier if plant protectors are used. Soaking the seed for 24 to 36 hours will hasten germination of either cold frame or field-seeded melons. Each hill of

melons should be allowed from 25 to 35 square feet of field space.

To aid in harvesting the melon crop, every sixth or eighth row may be planted to slicing cucumbers. As cucumbers mature earlier than melons, they will be through producing by the time the melons begin to ripen in volume, and the cucumber rows can be used as roadways.

Climate and Quality

The best-quality melons are grown in areas where day temperatures are in the eighties, days are bright and sunny, and night temperatures, particularly during the maturing season, fall below 70° F. These conditions allow for maximum photosynthesis (sugar production) during the day and its retention at low temperatures during the night. Temperatures above 90° F. during the development of the fruit will tend to cause the development of oversized, thin-fleshed, poor-colored, watery melons.

Melons need an abundance of water during early growth. On most soils 1½ inches of water as rain or through irrigation should be provided each week. As the crop begins to mature, the water can be cut down to one inch per week.

Unfortunately, melon quality is the result of many climatic and soil factors, some of which cannot be controlled by the grower. Perhaps our plant breeders will come up with a less temperamental variety of good quality. THE END.

MIDWEST GROWERS

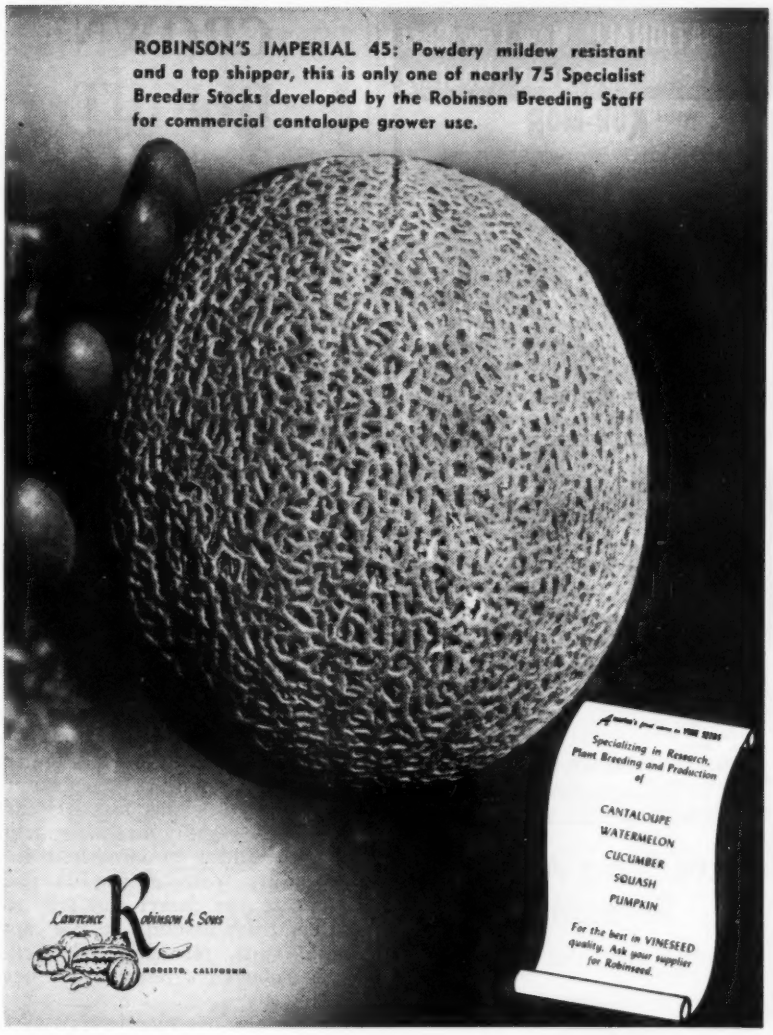
(*Continued from page* 15)

per acre. His chief insect pests are spotted and striped cucumber beetles which spread bacterial wilt. Dithane helps control Alternaria leaf spot, or scab, as it is called locally.

The Grigsbys use methoxychlor for beetle control soon after plants are set in the field. Later sprays carry zineb (Parzate, Dithane Z-78) for leaf spot control. They will apply from two to four applications.

A good yield of muskmelons ranges between 250 and 300 bushels per acre. Two years ago Kalina harvested 450 bushels per acre!

Once harvest begins, fields are gone over every day. The Grigsbys begin harvest about July 20-25, wind-up at the end of August. Last year they pulled between 600 and 800 bushels per day from their 14-acre planting. McTigue in northern Ohio starts harvesting about the third week of August, then continues until frost. He finds late melons a good market crop. THE END.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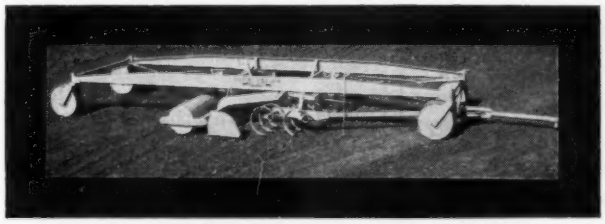

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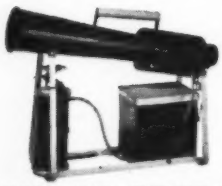

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Canton, Ohio

CROWN BLIGHT

Southwest melon growers hope for cures for disease problem

By IVAN J. SHIELDS

University of Arizona

WHEN a rock-bottom 85 crates per acre hit the cantaloupe growers of the Yuma, Phoenix, and Imperial valleys in 1955, many growers were dealt such a financial blow that they quit the melon business. Others came back in 1956 with a sharp reduction in acreage.

But the 66% higher yields this year over 1955 have quieted the deathknell clanging to this important crop, at least momentarily. The computed 128 crates per acre is a definite improvement over last year, but still falls short of the 137-crate average of 1954.

Chief cause of the melon growers' trouble is crown blight, a disease which causes a premature loss of crown leaves and has been cutting deeper into growers' pockets the past 10 years. This loss of leaves exposes the rapidly maturing melons to sun, resulting in unmarketable or low-quality fruit. A few days' exposure to the desert sun will stop the net from forming on the cantaloupe fruits, resulting in "slicks". Such "cooked" melons are never picked.

A battery of scientists from the universities of Arizona and California and the USDA have been working feverishly on this problem for the past three years, investigating every possibility as to the cause and control of crown blight.

The plant breeders are testing, selecting, and crossing for crown blight resistance. Plant physiologists are checking irrigation and fertilizer schedules and trace minerals. Plant pathologists have searched fruitlessly for a possible pathogen, although some activity has been noted among the root-rotting organisms. Soil specialists have been re-evaluating the salts, fertilizer, and water relationships. How much the serpentine leaf miner, curly top, and other deterrents contribute to the crown blight picture are also being considered.

Cultural Problem?

Meanwhile, research workers are finding some answers to how growers can best "live with the disease" until it is fully conquered. Early research shows that higher irrigation and fertility rates checked the onset of crown blight symptoms in test plots. So growers have upped their water and fertilizer schedules for cantaloupes.

Some growers admit that in their haste to ripen those first few cantaloupes to hit the early market, they allowed the beds to get too dry and lost the rest of the field when temperatures went over 100° F. The higher fertility induces some vine growth which may provide the shade so necessary to resist the disease.

Some growers do hit the right combination of cultural practices, and their fields yield 230 to 250 crates per acre. In the light of these yields, some have said that crown blight is not caused by a disease, but by one or more cultural boners. Only further research work can determine that. THE END.

COST OF PRODUCING CANTALOUPES IN ARIZONA

Based on 1955 Survey of Commercial Cost in Salt River Valley for Production of 170 Crates Per Acre Yield.

	No. Times	COSTS Per acre	Per crate
LAND PREPARATION AND PLANTING[1]			
Plowing[2]	1	$ 2.50	
Land Planning or Floating	1	1.25	
Disking	1	.75	
Furrowing out	1	.50	
Shape Beds and Planting	1	1.00	
TOTAL		6.00	.035
CULTURE[1]			
Insecticide Applications	2	2.00	
Cultivations	4	2.80	
Irrigations	8	10.20	
Fertilizer Applications	2	1.20	
Thinning and Hoeing	1	7.00	
Turning Vines	3	7.50	
TOTAL		30.70	.181
MATERIALS			
Insecticides	2	5.60	
Irrigation Water (SRVWUA)	3A/ft.	15.00	
Seed	3 lbs.	4.59	
Fertilizer—50 lbs. N, 50 lbs. P_2O_5 at planting time, 40 lbs. N at thinning time		7.60	
TOTAL		46.44	.273
HARVESTING			
Picking		45.90	
Hauling		23.80	
Packing Labor		61.20	
Shook (box, top slats, nails, etc.)		108.80	
Labels, ice, hauling culls, inspection, loading, etc.		45.90	
Miscellaneous (power, foreman, etc.)		20.40	
TOTAL		306.00	1.800
FARM OVERHEAD			
General Farm Expense—6 mo.[3]		18.40	
Equipment Expense and Depreciation—6 mo.[4]		14.00	
Industrial Insurance		1.20	
Interest on Investment—6 mo. @ 5%		10.00	
Taxes—6 mo.		3.00	
TOTAL		46.30	.272
GRAND TOTAL		435.44	2.56

[1] All items of Land Preparation, Planting, and Culture include labor, fuel, grease but not overhead. (Not custom operator price.)
[2] Renovating may be substituted where cantaloupes follow winter vegetables. Renovating cost per acre $1.25.
[3] General Farm Expense includes management, fence repair, weed control, and miscellaneous items.
[4] Equipment Expense and Depreciation include depreciation on all equipment used to produce the cantaloupe crop.

—*From Bulletin 275, "Growing Cantaloupes in Arizona."*

Answering Your QUESTIONS

Don't let your questions go unanswered. Whether large or small, send them with a three-cent stamp for early reply to Questions Editor, AMERICAN VEGETABLE GROWER, Willoughby, Ohio.

WATERMELON SEED GROWER

Would you please send me the name and address of the largest watermelon seed grower in the country as mentioned in your Letters to the Editor column.—Ohio.

The Simpson Nursery Co., Monticello, Fla., grows 101 watermelon varieties. Stuart Simpson has kindly offered to answer readers' questions in regard to watermelon varieties he produces. Mr. Simpson says: "We are growing all of the standard varieties and many new and novel and early-producing varieties. Certainly some of them will fit into the midwestern and northern growing areas and certainly some of them are considerably better quality than those that are generally produced in that area."

OKRA GERMINATION

Can you suggest a way of getting uniform germination of okra seed?—Texas.

Use only certified seed, plant seed in well prepared seed bed at a uniform depth (1 inch), treat seed with seed protectants such as Dow's 9B Seed Protectant, Ortho's Isotox 25 Seed Treater (F), Dupont's Arasan, or any other manufacturer's brand recommended for seed treatment.

CAULIFLOWER PROBLEMS

I would appreciate it if you would recommend bulletins relating to cauliflower culture and specifically any information on club root control.—Washington.

A bulletin put out by the USDA on cauliflower and broccoli varieties and culture can be obtained by writing the Superintendent of Documents, Government Printing Office, Washington 25, D. C. Ask for Cat. No. A 1.82:78 and enclose 10 cents. Also, we are sending you tearsheets from a recent issue of AMERICAN VEGETABLE GROWER on club root control of cauliflower.

BEAN TROUBLES

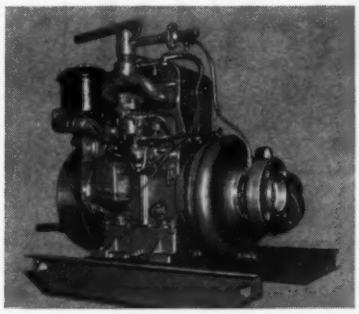
I have poor stands of lima and snap beans along with rusty spots on the beans and stems, and sometimes no leaves appear. What control measures do you suggest?—Illinois

The poor stands may be due to seed decay in the soil which can be controlled by treating the seed with Arasan, Spergon, or captan (at the rate of about 1½ ounces per bushel of seed). The rusty spots on the bean may be due to seed pitting which results when insects feed on the bean pods in regions where the seed is produced. The grower can't do anything about this but the seed producer can use insecticides to kill the insects. The failure of leaves to appear may be caused by seed-corn maggots feeding on the young seedling before emergence. Treatment of the soil ahead of planting with a soil insecticide, such as aldrin or dieldrin, would help.

CABBAGE JUICER

I was interested in your editorial about the use of cabbage juice to treat ulcers. Where could I obtain a machine that would extract juice from cabbages?—Virginia.

Try the Sweden Speed Juicer Corp., 3401 Seventeenth Ave., W., Seattle, Wash.



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Of interest to all will be the October issue of AMERICAN VEGETABLE GROWER featuring mechanization.

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NEW FOR YOU

—to increase your profits

Ball Half Pint

Many women have long wanted a jelly glass that could be sealed with the regular home canning caps—now here it is.

This new honey of a jar is called the Ball Half Pint, and has neatly tapered shoulders. Ideal for vacuum sealing jellies, spreads and relishes, the new jar is pleasing vegetable growers' wives everywhere. The new jar is so constructed that it can stand freezing also. If you are planning some late summer canning, why not put in a supply of these new Ball Half Pints! Gladys Kimbrough, Ball Brothers Co., Muncie, Ind., will tell you where to get them. Drop her a line.

Bigger Profits

Several Hudson Valley growers have told us about the machine pictured above. They report the bag closing machine increases their profits by cutting down on prepackaging costs. The new machine is made for the grower, the cost is low, and it will handle your bags as quickly as they are filled. A ring staple is put around the bag and the machine will handle polyethylene, seran, and other types of transparent bags. Why not get full information on this bag closing machine? Just write A. J. Paynter, Acme Staple Co., 1643 Haddon Ave., Camden 3, N. J. Acme has been in the business of making bag closing and stapling equipment for over 60 years.

Seedless Watermelon

Several Indiana melon growers have told me about a new variety which has been hailed by leading universities as the best new variety developed in the field of melon research. The new hybrid is very juicy and has a distinct flavor. The new melon seed germinates rapidly and is now available in kits for the amateur or professional grower. The kits include seed, heating cable, plant bands, and a booklet of instructions. The cost is only $4.95 and all growers should try this new variety on an experimental basis. Write American Seedless Watermelon Seed Corp., Rural Route No. 1, Goshen, Ind. Bulk seed prices are available on request.

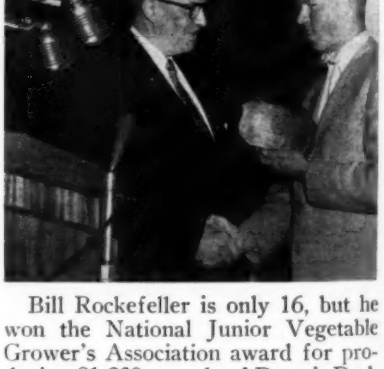
Soil Bank

There has been a lot of talk and a great deal of misunderstanding about the Soil Bank. It's almost impossible to get reliable information about this new part of the farm bill. Just last week a good, easily understood pamphlet on the soil bank was printed; it's now available to our readers. If you want to know more about this important phase of agriculture, send 50 cents to Readers' Service Dept., AMERICAN VEGETABLE GROWER, Willoughby, Ohio.

New Potato Harvester

The outstanding manufacturer of vegetable harvesting equipment in the world has just developed a new tractor-mounted harvester which does a beautiful and fast job of harvesting potatoes. The new machine, because it is tractor mounted, costs considerably less than other machines and makes it possible for every potato grower to own a harvester which will increase profits. Why not get the facts on this new machine? Just write Jim Parks, Lockwood Grader Corp., Gering, Nebr.

Champ Bill Rockefeller



Bill Rockefeller is only 16, but he won the National Junior Vegetable Grower's Association award for producing 81,230 pounds of Detroit Dark Red Beets on 2 acres of his father's farm. Pictured above is Bill getting his award from Secretary of Agriculture Ezra Taft Benson.

Bill gives credit for 20.3 tons to the acre to a careful production and fertilization program, plus high-quality Northrup King Detroit Dark Red Beet seed. This seed produced a uniform crop which grew vigorously. The absence of large beets which would have lowered the grade, plus the way the tops stood up late in the growing season, made Bill's crop ideal for machine harvesting. Why not write Ken Erickson, Northrup, King & Co., 15th Ave. N.E. & Jackson, Minneapolis 13, Minn.

MEET YOUR VGAA CONVENTION SPEAKERS

Jack B. Leaver

Among the slate of top-notch speakers scheduled to address the 48th annual convention of the Vegetable Growers Association of America November 28-30 in Grand Rapids, Mich., is Jack B. Leaver, of the Gerber Products Company.

Leaver will speak on the bulk handling of vegetables from field to storage to processing plant using pallet boxes. He will describe handling experiences with such vegetables as spinach, green beans, carrots, beets, squash, and sweetpotatoes.

Formerly a field representative for his company, Leaver was recently promoted to the newly-created post of assistant produce manager at the company's Fremont, Mich., plant. He has worked closely with Michigan vegetable growers in their harvesting and handling operations.

STATE NEWS

(*Continued from page* 18)

when examined later was more friable, and in a finer, moister condition than the others. In addition, nitrogen and other nutrients accumulated due to non-leaching, and conditions were favorable earlier for nitrification.

Irrigation Increases Yields

ARKANSAS—Supplemental irrigation of sweetpotatoes, snap beans, and cucumbers consistently increased yields in experiments conducted during the five years 1951-55 by the University of Arkansas Agricultural Experiment Station at two different locations.

A detailed report on the 12 different tests has just been released as Agricultural Experiment Station Bulletin 578. Single copies of the publication, "Irrigation of Sweetpotatoes, Snap Beans, and Cucumbers in Arkansas," are available from the Bulletin Office, Agricultural Experiment Station, University of Arkansas, Fayetteville.

Lettuce, Major Industry

COLORADO—Visitors to the state's first lettuce field day held on the Yoshida farms south of Alamosa, were told that the San Luis Valley has a promising future as a producer of quality lettuce. Last year, valley growers planted about 2300 acres. But the acreage this year more than doubled. Estimates place it at 5500 to 6000 acres.

Charles M. Drage, Colorado A & M extension horticulturist, told the field day visitors that the San Luis Valley has ideal conditions for head lettuce production. He pointed out, however, that production in eastern states is making the production of lettuce a highly competitive industry.

Perhaps the biggest single factor in revitalizing the lettuce industry in the valley was the installation of vacuum coolers last July. Lettuce, thus processed, can be shipped to any market in the nation with assurance that it will arrive in top-quality condition.

Handle With Care!

SOUTH CAROLINA—A Clemson College survey conducted by J. F. Pittman, agricultural experiment station economist, shows that supervised handling of watermelons during harvesting and loading reduced internal damage from 66% to 19%. A large reduction was also noted in the severity of the bruising.

Northern retailers have protested for a long time that hidden injury reduced sales.

Pittman based his tests on the Charleston Gray, a long-type variety, at loading sites in Florida, Georgia, and South Carolina.

Dry Weather Injures Crops

KANSAS—Dry weather continues to adversely affect crop prospects. Where available, irrigation is proving very valuable.

Anthracnose has been most severe on all vine crops. The anthracnose-resistant Charleston Gray watermelon variety as a result is proving useful in many large plantings.—*W. G. Amstein, Sec'y, Manhattan.*

Cool Summer

NEW HAMPSHIRE—This has been the coolest summer in many years. During the month of July the temperature never reached the 90° mark. Due to this temperature low, the harvesting season is running about 10 days to two weeks late. —*Perley D. Colby, Sec'y, Milford.*

Death Claims Agricultural Inventor

WISCONSIN—Henry Ariens, president of the Ariens Company, Brillion, died on July 30 at the age of 91.

Mr. Ariens as a young man started a foundry and machine shop to build power plants for threshing machines and cream separators using horses and dogs as the source of power—this before the advent of the gasoline engine. In addition he invented and developed the clod crusher, or soil pulverizer.

In later years the Brillion Iron Works, under his leadership, manufactured farm gasoline engines, warm air furnaces, and tractor engines.

In 1933 Mr. Ariens and his three sons organized the present Ariens Company to manufacture the Ariens Tiller, the Ariens Tillivator, and other rotary tillage equipment.

CALENDAR OF COMING MEETINGS AND EXHIBITS

Sept. 1-8—New York State Fair, Albany.

Sept. 23-26—Produce Packaging Association Conference & Exposition, Hotel Fontainebleau, Miami Beach, Fla.—Association headquarters: 500 Fifth Ave., New York 36.

Sept. 27-29—Florida Fresh Fruit and Vegetable Association annual meeting, Hotel Fontainebleau, Miami Beach.—Geo. Talbott, 4401 E. Colonial Dr., Orlando.

Oct. 8-10—Texas Citrus & Vegetable Growers & Shippers, Plaza Hotel, San Antonio.—Headquarters: Austin Anson, 306 East Jackson, Harlingen.

Oct. 31-Nov. 1—Wisconsin State Potato Show sponsored by Wisconsin Potato Growers Association, Inc., Antigo. Annual meeting of association Nov. 1.—Harold R. Simons, Sec'y, Box 22, Antigo.

Nov. 1-2—Western Growers Association 31st annual convention, Sheraton-Palace Hotel, San Francisco, Calif.—Headquarters 606 S. Hill St., Los Angeles 14.

Nov. 28-30—Vegetable Growers Association of America, 48th annual convention, Hotel Pantlind, Grand Rapids, Mich.—Joseph S. Shelly, Sec'y, 528 Mills Bldg., 17th and Pennsylvania Ave. N.W., Washington 6, D.C.

Dec. 6-7—Oregon State Horticultural Society annual meeting, Oregon State College, Corvallis. —Gordon Walker, Pres., Independence.

Dec. 13—Southern Minnesota Vegetable Growers Association annual meeting, Armory, Albert Lea.—Juel B. Nelson, Sec'y, Albert Lea.

Jan.—Joint meeting New York State Vegetable Growers Association and Empire State Potato Club, Hotel Van Curler, Schenectady. —W. B. Giddings, Sec'y, Baldwinsville.

OPPORTUNITY ADS

Only 25c a word for one-time insertion; 20c a word for two-time insertion; 15c a word for four-time insertion—CASH WITH ORDER. Count each initial and whole number as one word. ADDRESS AMERICAN VEGETABLE GROWER, Willoughby, Ohio.

AGENTS WANTED

NEW PLASTIC MENDING TAPE. JUST press on! Repairs clothing instantly. Lightning seller. Samples sent on trial KRISTEE CO., Dept. 101, Akron, 8, Ohio.

RUN SPARE-TIME GREETING CARD AND Gift Shop at home. Show friends samples of our new 1956 Christmas and All-Occasion Greeting Cards and Gifts. Take their orders and earn to 100% profit. No experience necessary. Costs nothing to try. Write today for samples on approval. REGAL GREETINGS, Dept. 4, Ferndale, Michigan.

FOR SALE—EQUIPMENT AND SUPPLIES

ROADSIDE MARKET OPERATORS AND market gardeners, you can now wax your tomatoes, cucumbers, peppers, squash and other smooth skin vegetables with Johnson's WAX SHINE by hand, and command top demand and prices. Send $1.00 and will ship postpaid quantity that will wax more than a thousands pounds of produce. WAX SUPPLY CO., P.O. Box 304, Lombard, Illinois.

GOOD USED FARM CONTAINERS—SPLINT handle baskets, bushels, boxes, hampers, bags, nailed and wirebound crates. Truckload or carlots. Call or write ZELVY BROS. CONTAINER CO., 2005 Orange Ave., Cleveland, Ohio.

MISCELLANEOUS

IRRIGATION "PORT-ALUM" COUPLERS. Engineers have 8 years practical experience. "A Gentle Rain—Not a Cloudburst". Few dealerships open. In Ohio and nearby, write T. D. ROMIG, Carey, Ohio or "PAISO", Coshocton, Ohio.

THE HOW-TO BOOK ON STRAWBERRIES. Common sense treatment of the must and must-not in strawberry culture. Fully illustrated. Write AMERICAN VEGETABLE GROWER, Box 107, Willoughby, Ohio.

MAILING LISTS — 100,000 CAREFULLY selected names in the Agricultural Field. Individual lists of Potato Growers, Tomato Growers, Corn Growers and many others. Ideal for firms wishing to contact leading growers and dealers. For details write: MACFARLAND CO., Box 2, 8 Elm Street, Westfield, N. J.

PLANTS FOR SALE

NEW CROP CABBAGE, COLLARDS, BROCCOLI plants ready. *Cabbage*—Ferry's Round Dutch, Early Jersey Wakefield, Charleston Wakefield, Savoy. *Collard Plants*—Cabbage Collard (Heading) and Vates (Non-Heading). *Broccoli Plants*—Walthan No. 29. Satisfaction guaranteed. DIXIE PLANT CO., Franklin, Virginia. Telephone Logan 2-3872.

NATURAL SOIL CONDITIONERS

ALL ORGANIC MATERIAL USED. ALL bags 24" x 40". Ready-made compost $3.00. Raw material $2.20. Ground corn cobs $1.60. 2-5 bags 10% off, 6-11 15%, 11 and more 20%. Write for more information. ORGANIC PROCESSING FARM & ORCHARDS, 1108 Beal Road, Mansfield. Ohio.

OPPORTUNITY ADS

BUY, SELL AND TRADE—Readers and business firms will get top advertising value at low cost from AMERICAN VEGETABLE GROWER "Opportunity Ads." These classified ads are widely read, widely responded to by AMERICAN VEGETABLE GROWER'S high-income readers throughout America. Our classified advertising department will run your ad under any heading and will guarantee correct insertion.

RATES—For one insertion, 25c per word. For two insertions, 20c per word. Four insertions, 15c per word. Count each initial or whole number as one word. CASH WITH ORDER.

AMERICAN VEGETABLE GROWER reserves the right to reject or alter any copy which does not merit its standards. Ads will be inserted in first available issues unless preferred month is specified by advertiser. Closing date is first of month preceding publication.

Our Hallmark of Quality

IT is no accident that your AMERICAN VEGETABLE GROWER is the leading vegetable magazine in the United States. To be sure that all of our readers are treated alike, to be sure that advertisers get value received, AMERICAN VEGETABLE GROWER is a proud member of the Audit Bureau of Circulations. Any publication that charges a uniform price for subscriptions and is elected to membership can display this honor emblem. A. B. C. is over 40 years old and only the leading magazines, advertisers and their agencies support this nonprofit organization.

Every reader of AMERICAN VEGETABLE GROWER pays for his subscription. To make our publication of real value our editors are constantly seeking stories and case histories to help all of our subscribers. This editorial policy is expensive and time-consuming. If a grower doesn't want our magazine and isn't willing to pay for it, he isn't going to read it; and, our editorial know-how and expense are wasted.

By the same token our advertisers want to be sure that the advertising space that they buy from us will reach interested, vigorous growers. Paid A. B. C. readership is their guarantee that the publication is reaching the reader and that the reader is vitally interested in the magazine in which their message appears.

Thus, for the reader and for the advertiser the A. B. C. emblem stands for integrity and magazine publishing at its highest level. We know that you, as one of our readers, will agree with this philosophy. To be sure that all of our readers are treated alike and that our advertisers are getting value received, we are proud to carry the A. B. C. emblem on our masthead.

Melons for the Millions

THE melon industry of the United States is deeply indebted to the hard-working and patient melon breeders and hybridizers who have been laboring so long to bring better melons to the farms.

In the field of muskmelon and cantaloupe breeding, we again find workers busy with the disease resistance problem. At Cornell University Dr. H. M. Munger developed the Delicious 51, an early, sweet muskmelon that carries resistance to fusarium wilt. Iroquois is another wilt-resistant variety from the same breeder.

From the Winter Haven Experiment Station in Texas comes the Texas Resistant No. 1, which shows resistance to melon worms and aphids. Also from the Texas station comes the V-1 variety which is very tolerant to sulfur dusting.

Powdery mildew has long been a big problem with cantaloupe growers, especially in southern areas. Now they have such mildew-resistant varities as Hale's Best Powdery Mildew Resistant No. 45, or for short, PMR-45. Quality and sweetness are as important as disease resistance in new cantaloupe varieties, and breeders are always alert to this fact.

You might say this is the age of plant breeding, and we can see its important place in melon production. Were it not for plant breeders working patiently and consistently upon the many and varied problems, melon growing might have been relegated to a lower status in America than it now holds. Our congratulations and encouragement to all those who are working to improve the melon varieties we grow.

VEGETABLE CONVENTION

". . . and if I'm nominated my platform will be —a brace of rabbits in every frying pan!"

Two Bits a Bushel!

ONE day this summer an Alabama cantaloupe grower stood on a Birmington street corner and gave away a truckload of choice melons. It was not a publicity stunt; there were no strings attached. He simply preferred to give his crop away than accept the bottom-of-the-bucket price of 25 cents a bushel at the local farmers' market.

In about 20 minutes he had passed out 250 melons to a flock of happy housewives. Then he drove off, saying with a shrug, "Oh well, I'd rather let somebody enjoy them than feed them to the hogs."

This street corner give-away occurred when the bottom dropped out of the Birmingham cantaloupe market. The price dropped from $1 to 75 cents to 50 cents to 25 cents a bushel.

"Two bits a bushel! I believe in selling things, but selling them for two bits a bushel just wouldn't be selling," the grower remarked.

The grower obviously felt better after his outburst of generosity. Yet, like the rest of us, he is in the melon business to make money, and you don't make money giving your crop away free. Without a doubt he would have preferred to unload his melons at a fair price.

We can't help wondering what price this grower's melons would have brought if they had been marketed through a growers' co-operative. We'll bet it would have been a good bit more than two bits.

Coming Next Month

Mechanization Issue

- The New Bladeless Potato Digger
- How Bryan Smith Cuts Costs in His Potato and Radish Fields
- Two Men Now Harvest 10 Acres of Beans a Day!
- How the Pottengers Grow Sweet Corn

New increased capacity for Ford's "2-ton" farm workhorse. Series F-600 is now rated for a whopping 19,500 lbs. GVW with optional heavy-duty components. Widest choice of modern Short Stroke power, V-8 or Six!

For big jobs, small jobs, all jobs . . .

Ford Trucks cost less!

More loadspace for your money! New 8-foot box on Ford's F-100 pickup offers more capacity than any other half-tonner. Regular 6½-foot box is one of roomiest in its class with a full 45 cu. ft. capacity.

For family use, too. The Ford Pickup rides so easy and handles so easy, even the "Missus" will enjoy running it to town! Only Ford offers you the added safety of Lifeguard Design in its DRIVERIZED cab.

Low initial cost is only one of a number of reasons why farmers everywhere find that Ford Trucks cost less.

Only Ford provides the oil and gas economy of modern Short Stroke power in every engine of the line—V-8 or Six! Ford Trucks cost less to maintain because they're built stronger to last longer.

Yes, first cost on a Ford Truck is low. Resale value is high. Ford's modern Short Stroke engines keep running costs down. And a 10½-million-truck study proves that Ford Trucks last longer.

For the best truck buy, see your Ford Dealer soon. *Buy* with confidence, *drive* with confidence and SAVE with confidence.

Ford Trucks last longer

Using latest registration data on 10,502,351 trucks, life insurance experts prove Ford Trucks last longer

To get extra dollars from your Great Lakes Lettuce start with Asgrow seed

When prices are high, heavier yields from Asgrow seed mean more money for you

When the market is slow, Asgrow quality will help you sell your crop

NEXT TIME USE ASGROW LETTUCE SEED

A choice of strains to suit your needs

*GREAT LAKES 118	The leading strain for main crops in major lettuce areas
*GREAT LAKES 66	Superior quality; very deep color, smooth base. Midseason
*GREAT LAKES 65	Exceptionally uniform, giving heavy first cut
GREAT LAKES 659	Particularly well adapted for cool weather conditions
GREAT LAKES 59	For early cutting; good uniformity; tip-burn resistant
No. 456	For summer harvest; solid heads; slow-bolting; tip-burn resistant
PENNLAKE	For earliest, transplanted spring crops in the Northeast

**Developed by Asgrow*

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